

*Featherweight
Concrete*
INSULATING
ROOF SLABS

FEDERAL-AMERICAN CEMENT TILE CO.
CHICAGO

PITTSBURGH OFFICE
OLIVER BUILDING
610 SMITHFIELD STREET

CATALOG 102-ROOF STANDARDS

ROOF SLABS
INSULATING
CONCRETE
Ceilings



A New Chapter in the History of Concrete

Building design could find no more important an outlet for its development than in the field of *concrete*, now so broadly recognized for its invaluable contributions to structural progress.

An improvement in concrete is indeed to be hailed as a notable achievement, extending so great an influence throughout the entire sphere of building activities as to mark it as truly epoch-making.

Roofs, precast of concrete—have earned their prime position in the structural world through a quarter-century of permanent, fireproof, no-maintenance service, on industrial, railroad and public buildings. Today, to the recognized merits of concrete roof slabs are added new virtues—*new light weight—new insulating value—new nailing surface when desired*—all of inestimable worth in building economy.

Featherweight Concrete Insulating Roof Slabs have introduced a new era in the field of roof construction.

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OVER TWO HUNDRED MILLION SQUARE FEET OF ROOFS IN SERVICE

Made, Laid and Guaranteed by

FEDERAL-AMERICAN CEMENT TILE CO.

Executive Offices: 608 South Dearborn Street, Chicago

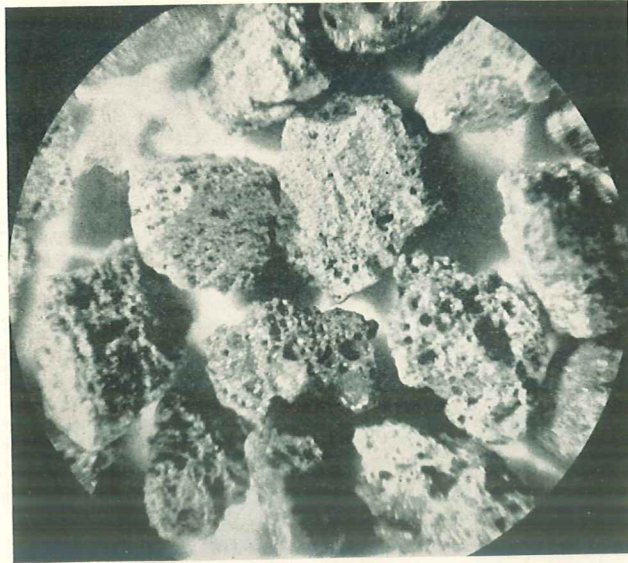
Plants near: CHICAGO - NEW YORK - PITTSBURGH - BIRMINGHAM

Sales Offices: New York - Chicago - Philadelphia - Washington - Pittsburgh - Detroit
Boston - Buffalo - Birmingham - Dallas - Atlanta - Duluth - Minneapolis

FOR OVER A QUARTER CENTURY

Trapped Air Cells

Micro-photograph of Haydite clinker showing its unique cellular structure. It is the presence of these countless trapped air cells, each with walls of thoroughly vitrified shale, that give Featherweight Concrete Insulating Roof Slabs their great strength, light weight and insulating value.



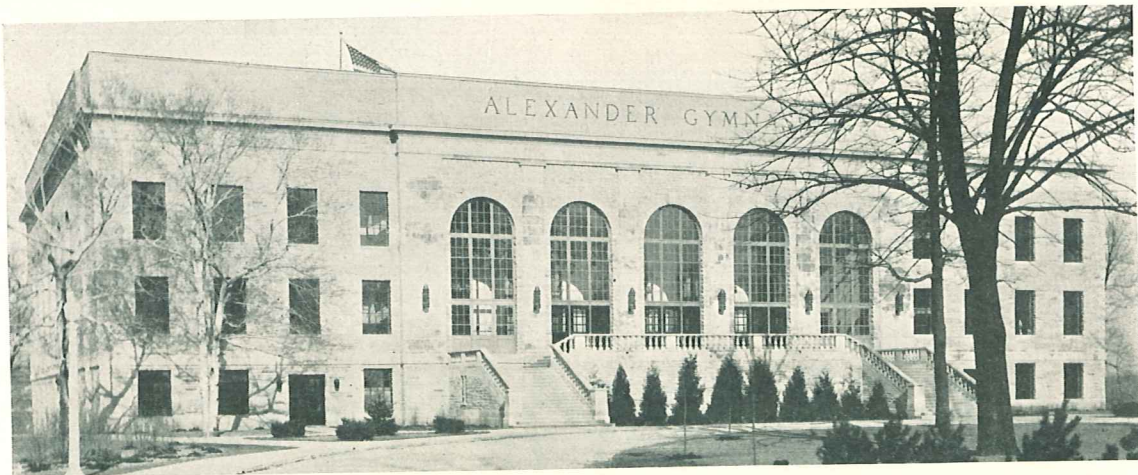
FEATHERWEIGHT Insulating Concrete is produced by combining Portland cement with Haydite, the inert light weight aggregate used instead of sand.

This aggregate—burned shale—is a manufactured product, made under positive control and supervision of both raw material and processes. It enters as a scientific ingredient into the formation of highest quality concrete.

The shale is ground and then burned at a temperature of over 2000 degrees Fahrenheit in rotary kilns of the same type as used in the manufacture of Portland cement.

As a result of this process, the shale becomes viscous—incipient fusion has taken place, the carbon content has oxidized and formed gases, causing the shale to expand into an inert lightweight, cellular structure. The expansion process is so complete that even the finest particles show an ideal cellular structure when magnified. Note illustration above.

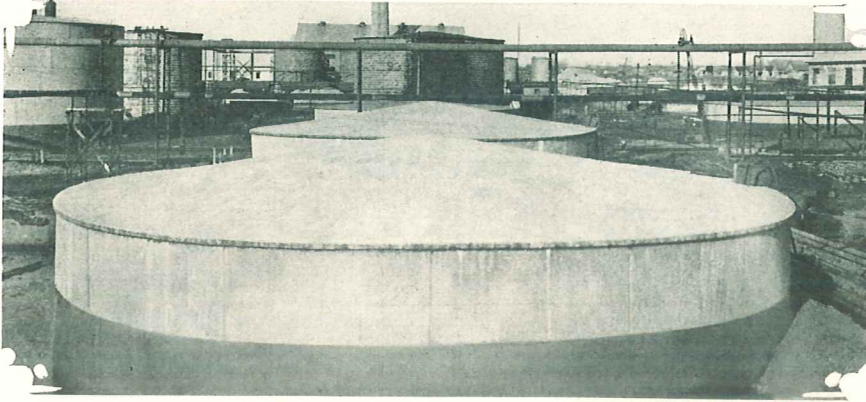
The resultant product is a series of trapped air cells, the partitions of which are thoroughly vitrified, fused shale, impervious and of great structural strength.



Alexander Gymnasium, Lawrence College, Appleton, Wis., one of the country's latest and finest sports buildings is covered with Featherweight Concrete Insulating Roof Slabs. In many other prominent athletic buildings, activities have been carried on for years under the protection of Federal roofs.

FEDERAL-AMERICAN CEMENT TILE CO. - CHICAGO

Haydite Concrete Has Been in Use for Many Years



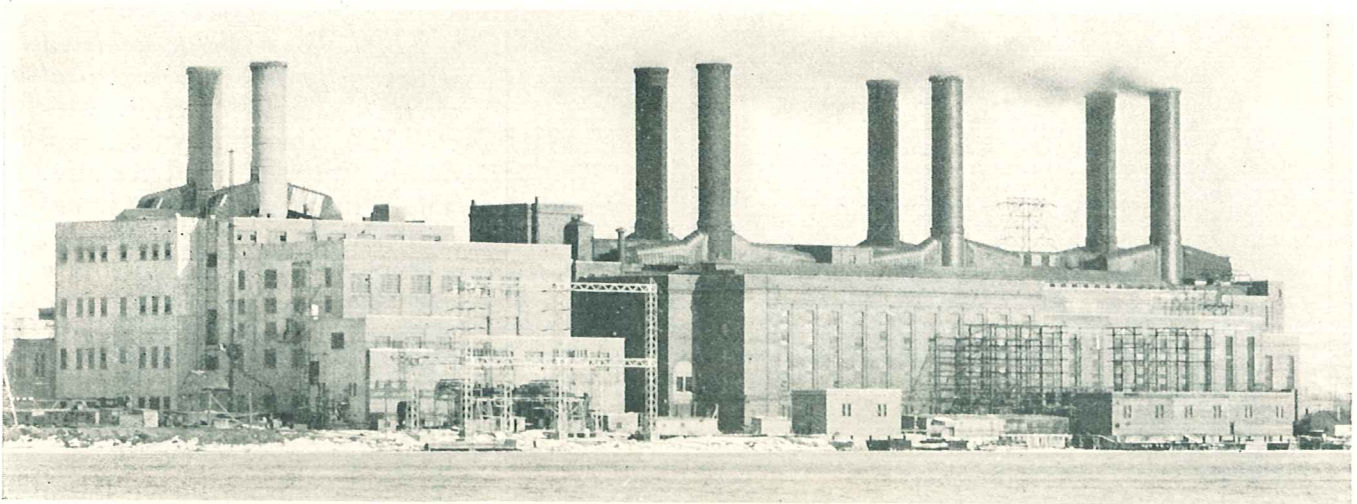
Oil tanks of the Standard Oil Co. at Neodesha, Kans., with roofs of Haydite concrete erected in 1921. To-day these roofs under heavy duty, are in excellent condition, as sound as when originally built.

Concrete made from Haydite aggregate has given ample proof of its structural soundness over years of service—on oil tank roofs as shown above, in floors, walls, bridge slabs and other practical applications.

Ten years ago, the research and development department of our organization, foreseeing the tremendous significance of light weight insulating concrete, began to experiment with all aggregates available for the purpose. Cinders and slag were discarded early, in favor of the more effectively controlled

burned shale, and careful test and trial over the years finally led to the adoption of Haydite. Early test slabs made ten years ago and exposed since that time to the weather, in a roof at our Hammond, Indiana plant, have actually improved in strength and wearability.

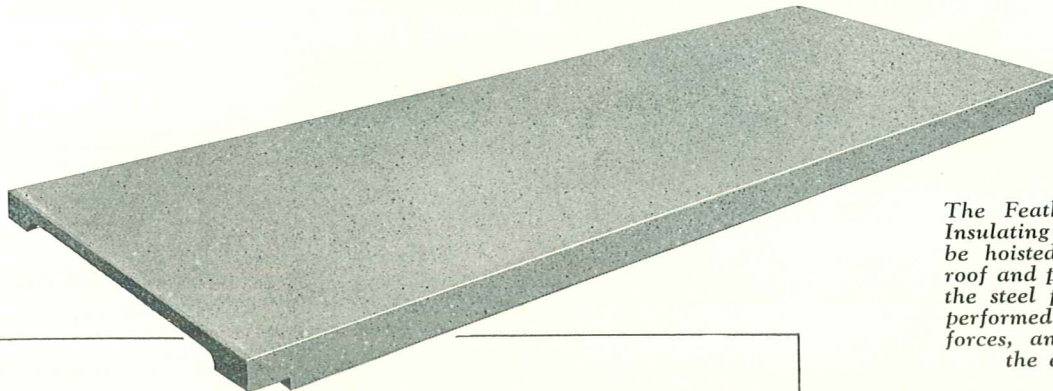
As made today in the large Federal daylight shops, with every modern facility and method available, and backed by a quarter century of experience in manufacturing concrete roof slabs, Featherweight Concrete attains a new peak of quality, far superior to any other roof construction available.



Buffalo General Electric Co. plant showing the addition at the left, covered with Featherweight Concrete Insulating Roof Slabs. This is one of the largest steam plants in the country. Approval by so many outstanding concerns, is striking evidence of Featherweight merit.

FEDERAL-AMERICAN CEMENT TILE CO. - CHICAGO

A 10 pound Roof Slab — Yet Strong as Sand Concrete



The Featherweight Concrete Insulating Roof Slab ready to be hoisted from box-cars to roof and placed directly upon the steel purlins. Erection is performed by our own skilled forces, anywhere throughout the entire country.



THE THOMPSON & LIGHTNER CO.
INCORPORATED
ENGINEERS
STATLER BUILDING, BOSTON, MASS.

NEW YORK
CHICAGO
205 W WACKER DRIVE

March 4, 1930.

Federal Cement Tile Company,
608 South Dearborn Street,
Chicago, Illinois.

Gentlemen:

An analysis of the compression tests on 3" x 6" cylinders of Haydite concrete made at your plant indicates that a mix such as you are using in your channel slabs, consisting of one part of cement to approximately three and one half parts of Haydite, as received, will give compressive strengths of -

2350 lbs. per sq. in. at 10 days, and
3850 lbs. per sq. in. at 28 days.

Sand concrete of the same mix and under the same conditions would be expected to give approximately the same strength.

The various Haydite concrete slabs from your stock pile which we have tested from time to time all carried well in excess of sixty pounds per square foot with a factor of safety of four.

Very truly yours,

THE THOMPSON & LIGHTNER CO., INC.

Sanford E. Thompson
Sanford E. Thompson
President

SET/s

Note this letter from an international authority on concrete, attesting to the great strength of Featherweight Concrete Insulating Roof Slabs.

It is apparent that the use of this highly cellular aggregate, together with scientific design, must reduce very materially the weight per square foot of roof slabs as compared to those previously available. That this is true is evidenced by the fact that a Featherweight Concrete slab weighs but 10 pounds per square foot in spans up to 6'4". This produces substantial savings in the structural steel required to support the roof.

The light weight is achieved with exactly the same structural strength as sand concrete. Mechanical vibration produces a dense, impervious structure. The cellular nature and irregular shape of the aggregate particles insure an intimate and close-knit bond with the cement. The Featherweight Concrete slab carries safely a load well above all building code requirements and *actually grows stronger with age.* Read the authoritative letter at the left.

FEDERAL-AMERICAN CEMENT TILE CO. • CHICAGO

Long Span Featherweight Concrete Slabs Offer New Steel Savings Never Before Possible in Permanent Roof Design

YEARS of research and development in the study of both roof slabs and the steel frame to support them, have created through the Featherweight Concrete Insulating slab an ideal in overall economy.

The design of this slab represents the most advantageous distribution of the concrete. It is available for long spans (made to fit your purlin spacing). The slab weighs 10 lbs. per sq. ft. for spans up to 6'4". For longer spans, the weight varies—for example, our 8' slab weighs 12 lbs. per sq. ft. This not only per-

mits of *fewer* steel purlins, but *lighter* ones as well.

The result is a structural steel frame of the lightest possible weight and cost, consistent with the strength and service essential to good roof construction. *It is a significant fact that Featherweight Concrete Slabs go on the same light steel frame that carries other roofs.* The added value of the concrete deck in permanence, fire-safety, saving in maintenance—now makes it the one logical choice of architects, engineers, and owners.



The illustration above is an interior view of the new 124th Field Artillery Armory in Chicago, a building with a clear span of 220 feet. This picture shows the modern, fireproof roof-deck of Featherweight Concrete Slabs which will last as long as the rest of the building, without painting or other maintenance.

FEDERAL-AMERICAN CEMENT TILE CO. • CHICAGO

New Insulating Value—an Inherent Quality of These Roof Slabs

BOSTON



CHICAGO

THE THOMPSON & LICHTNER CO., INC. Engineers

STATLER BUILDING, BOSTON, MASS.

March 26, 1930

Federal Cement Tile Company
608 South Dearborn Street
Chicago, Illinois

Gentlemen:

We give you herewith the results of the thermal conductivity tests made by the "Hot Plate" method on an 18" square by 1" thick specimen of Haydite "Featherweight" concrete.

Material	Thickness Tested	Density	Coefficient of Thermal Conductivity
Haydite Concrete	1.04"	73.0 #/cu.ft.	1.88
Haydite Concrete	1.06"	75.0 #/cu.ft.	1.77
	1.05"	74.0 #/cu.ft.	1.82

The Coefficient of Thermal Conductivity is expressed in B.t.u. per hr., per sq.ft., per inch thickness, per 1°F. temperature difference between surfaces.

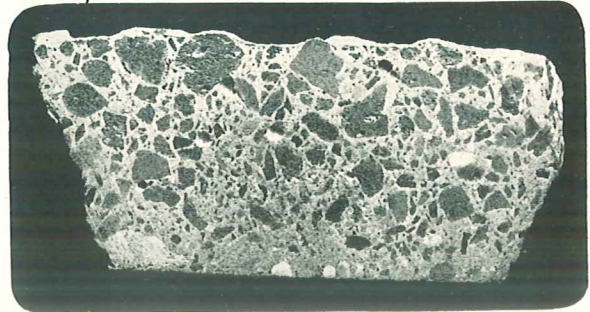
The thermal conductivity of ordinary concrete is usually considered as being approximately 6 to 8 B.t.u. per hour.

Very truly yours,

THE THOMPSON & LICHTNER CO., INC.

Sanford E. Thompson
SANFORD E. THOMPSON
President

SET: AM



Photograph of cross section of Haydite concrete slightly enlarged, showing the dense, impervious structure of the concrete and the cellular nature of the Haydite.

insulation against the passage of heat and cold, never before obtainable in concrete.

The Co-efficient of Heat Conductivity for a slab of this concrete, one inch thick, is 1.82 British Thermal Units per hour per square foot, per degree Fahrenheit difference in temperature.

The Co-efficient for a similar slab of sand concrete is 6 to 8, approximately three to four times as great. In other words, a Featherweight Concrete roof-deck is a much better heat and cold insulator than a sand concrete deck.

Because of this low thermal conductivity, the heat loss through the roof is held to a minimum. Note the authoritative test results shown in letter above.

THE millions of individual trapped cells in Haydite aggregate, the partitions of which are thoroughly vitrified, provide pockets of dead air that set up an ideal

The Haydite referred to in the above test is heat treated clay aggregate.

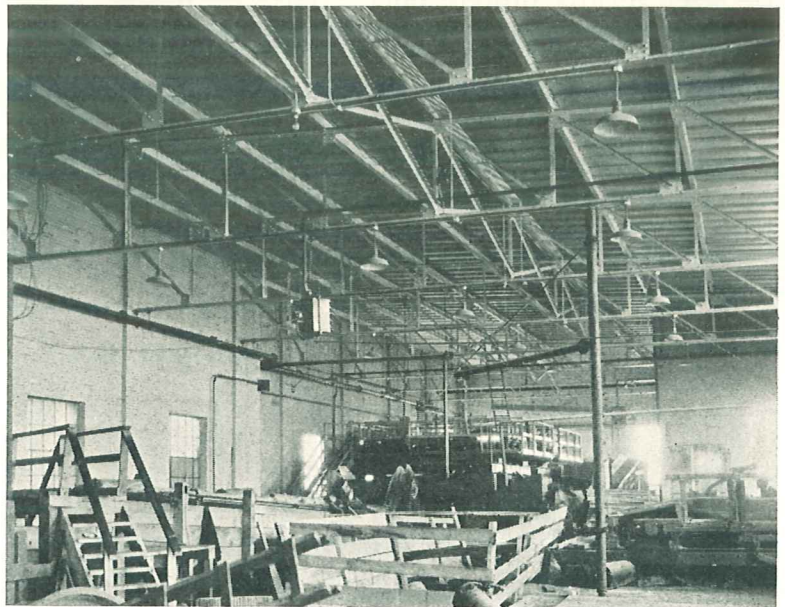
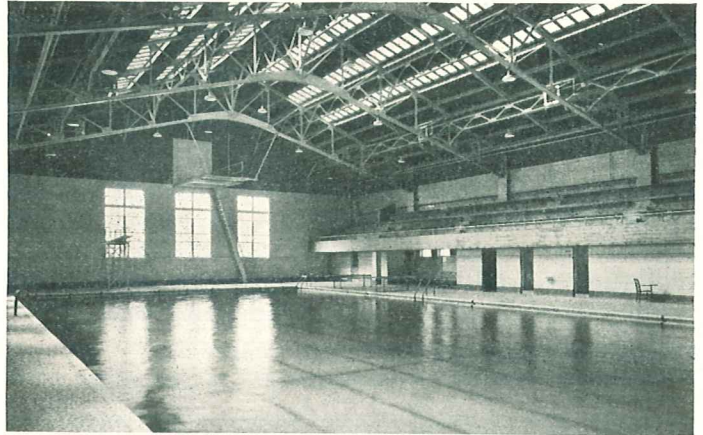
FEDERAL AMERICAN CEMENT TILE CO. . CHICAGO

Cork Insulated Slabs

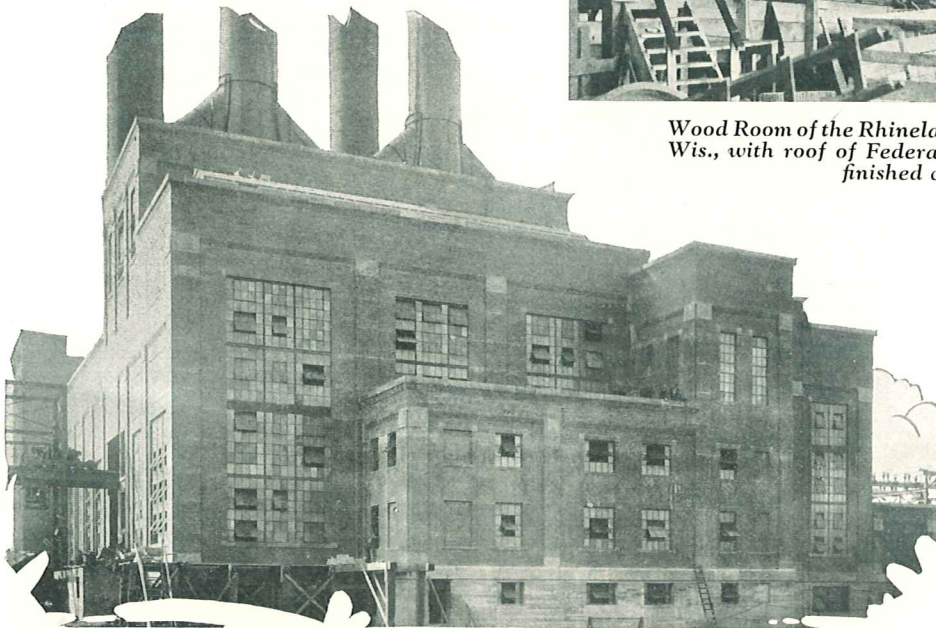
IT is frequently desirable to make provision for sound deadening, to improve the acoustics of schools, auditoriums, gymnasiums, swimming pools, offices and the like. Sometimes also, a super-insulation is desired, for use in extreme conditions such as on certain types of paper mill buildings.

Federal Cork Insulated Slabs provide this acoustical value without the use of a suspended, plastered ceiling, and afford extra insulation as well. The slabs are cast integrally with a layer of cork on the underside, or inserted in the body of the slab, forming a complete factory-made unit. The cork on the underside is susceptible to any decorative treatment desired for architectural appearance.

Illustration at the top shows Federal Cork Insulated Slabs over a swimming pool, and below over a paper mill building and power house.



Wood Room of the Rhinelander Paper Co., Rhinelander, Wis., with roof of Federal Cork Insert slabs. Note the finished ceiling effect.



Oklahoma Gas & Electric Co., Harrah, Okla., one of the many Byllesby projects with roofs of Featherweight Concrete slabs. A portion of this building is covered with Cork Insulated slabs.

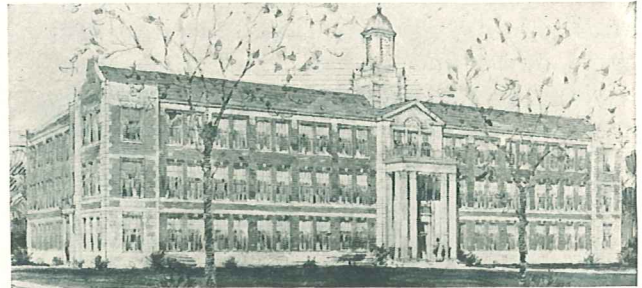
FEDERAL-AMERICAN CEMENT TILE CO. - CHICAGO

Advanced Manufacturing Methods Make These Advantages Possible

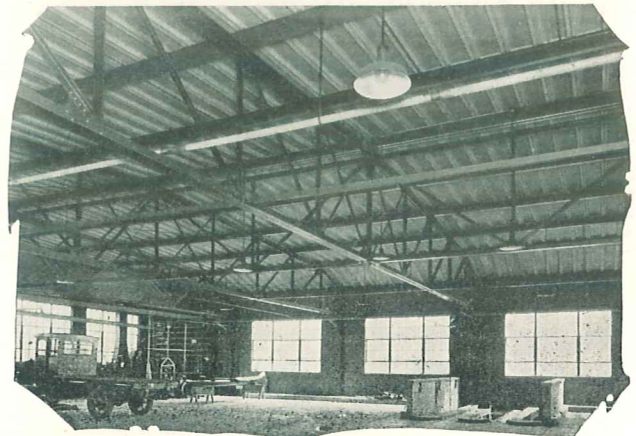
ALL Federal slabs are made in our own fireproof daylight factories, the largest roof slab plants in the country, developed and perfected over a period of 25 years. The conditions for mixing and casting concrete are ideal, temperature and moisture as well as all other factors being held under strict *quality control*, and mechanical equipment as well as the human element at their best for efficient handling.

For producing Featherweight Concrete slabs, the scientifically proportioned, controlled mix is placed in a rigid steel mold, with the steel reinforcing mechanically held in its most advantageous position in relation to the concrete. This form is then vibrated at a rate of 2500 blows per minute, giving a dense, impervious concrete. The result is a stiff channel section, strong, yet with the light weight that saves steel in the superstructure. The steel mold imparts a smooth, under-finish to the slab, giving an attractive ceiling effect.

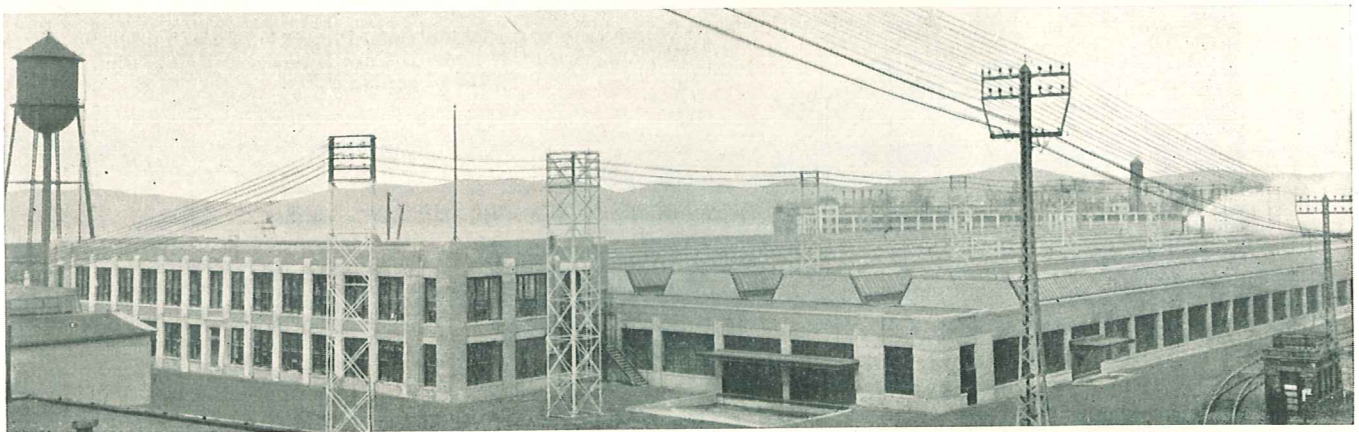
The slabs are laid directly on the steel roof purlins and the joints cemented on the upper side with asphaltic cement, ready for the composition covering to be mopped in place. Featherweight Concrete slabs are equally adapted for flat or pitched roofs.



Marshall High School, Marshall, Mich., a modern educational building covered with Featherweight Concrete Insulating Roof Slabs.



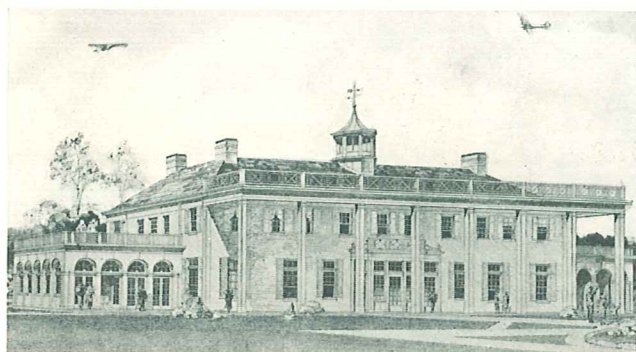
Indianapolis Water Works garage, an example of a comparatively small building, where Featherweight Concrete Roof Slabs are just as advantageous as on larger buildings.



Chevrolet Motors, Division of General Motors Corporation, Assembly Building, Tarrytown, N. Y., covered with over 400,000 sq. ft. of Featherweight Concrete Insulating Roof Slabs. Many other plants of this Company from New York to California are protected with Federal.

FEDERAL-AMERICAN CEMENT TILE CO. - CHICAGO

Permanent—Fireproof—No Maintenance, There Is No Sounder Roof Investment



Terminal Building of the Birmingham, Ala., Municipal Airport with roof-deck of Featherweight Nailing Concrete Slabs under the ornamental tile—permanent and fire-safe.

“**C**ONCRETE for permanence” is today far more than a slogan. It is established practice, approved by foremost architects and engineers whether for a bridge, the foundation of a building or a highway across the country. *Precast concrete is concrete at its best*—far better than field poured concrete could ever be.

The precast concrete roof outlasts the rest of the structure and throughout its entire life requires no painting, repairing or other maintenance whatever. It is fireproof—to an even higher degree than ordinary concrete—and usually brings the benefit of lower insurance rates.

Immune to all destructive influences — steam, smoke, water, heat, cold, rust, gases and fumes — these concrete slabs provide the lowest cost permanent roof obtainable. Delay is avoided in the construction of the building, since the slabs are manufactured while the structural steel is being fabricated.

They are easily and quickly erected, being simply hoisted from box-cars to roof. Weather conditions are no bar—Federal slabs go on as readily at zero as at summer heat. We maintain our own skilled erecting organization available anywhere in the country to insure a perfect job at high speed for early occupancy. The slabs form a hard, dry, surface for the composition, so that the covering adheres firmly and smoothly. Furthermore, no time is lost waiting for the roof-deck to dry out before the composition is mopped on. All Federal roofs are fully guaranteed.

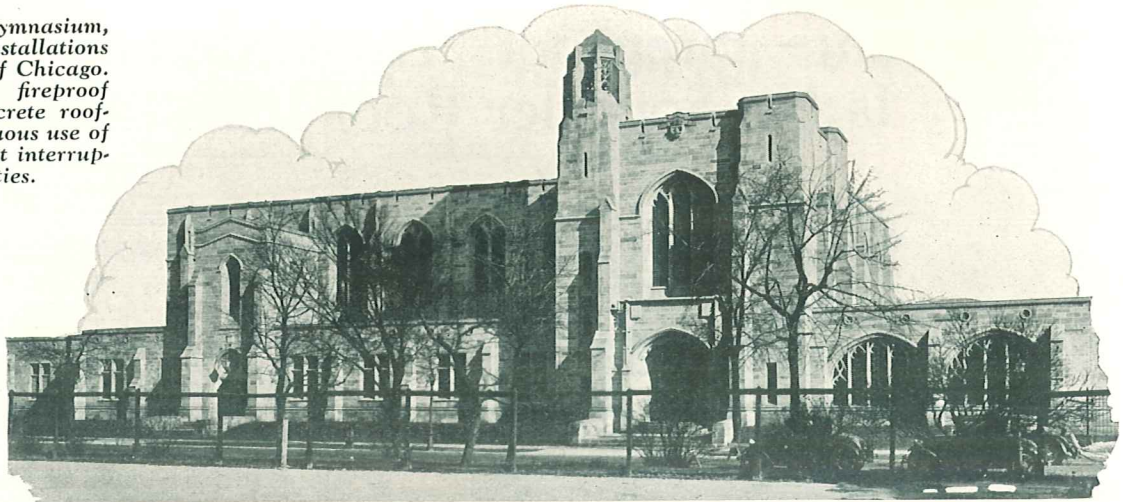
Full information and recommendations for the most economical layout of both structural steel and slabs for any project, gladly furnished by our engineers without obligation.



Jos. T. Ryerson Co., Warehouse, Detroit. Note the splendid underside of this roof of Featherweight Concrete slabs. It requires no painting—no repairs—no maintenance of any kind.

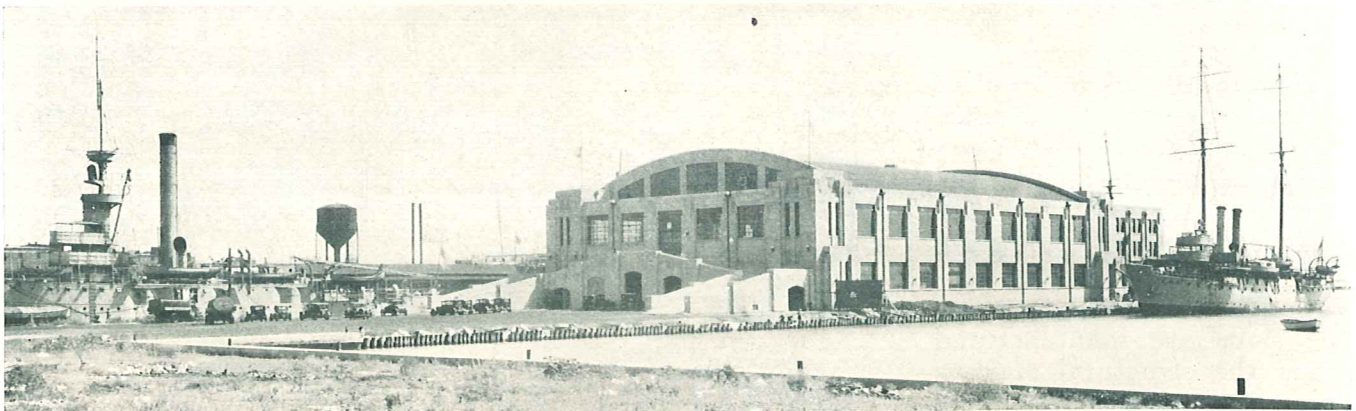
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Bernard Sunny Gymnasium, one of many fine installations for the University of Chicago. The permanent, fireproof Featherweight Concrete roof-deck assures continuous use of the building without interruption to activities.



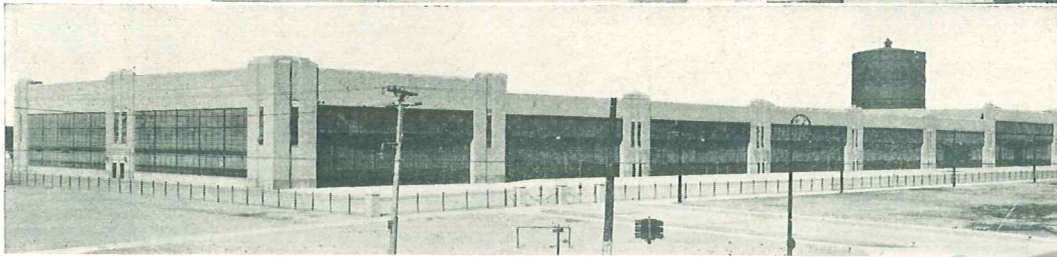
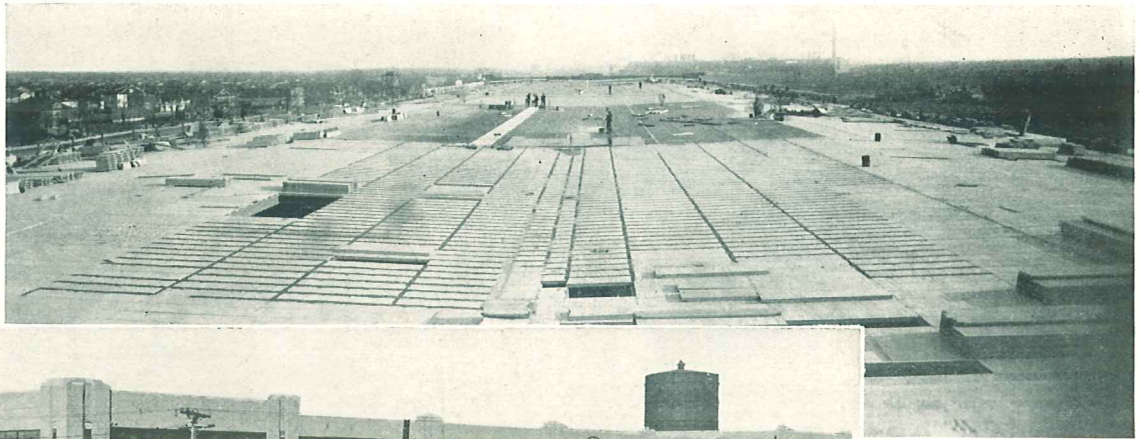
Billet Mill Sub-Station of the American Steel & Wire Co. plant at Donora, Pa., covered with Featherweight Concrete Insulating Roof Slabs. There is a 20-ton crane in this building over a 60 ft. span.

Illinois Naval Armory, another of the public buildings in Chicago's Lake Front Development, roofed with Featherweight Concrete slabs. A project of this kind naturally calls for permanent construction.



FEDERAL-AMERICAN CEMENT TILE CO. - CHICAGO

New Detroit Municipal Airport Hangar with five acres of Featherweight Concrete Insulating Roof Slabs. It marks the latest trend in hangars—structural steel and precast concrete roof-deck.



Another big hangar project—at Wayne County Airport, Detroit—with 50,000 sq. ft. of Featherweight Concrete Roof Slabs. A permanent, fire-proof, no-maintenance roof that affords real protection to men, planes and equipment.

Aviation Building of the Bendix Aviation Corp., South Bend, Ind., with almost 300,000 sq. ft. of Featherweight Concrete Roof Slabs, representing only about half the area of Federal Roofs erected for this company. This roof-deck was laid in winter weather without interruption or delay.



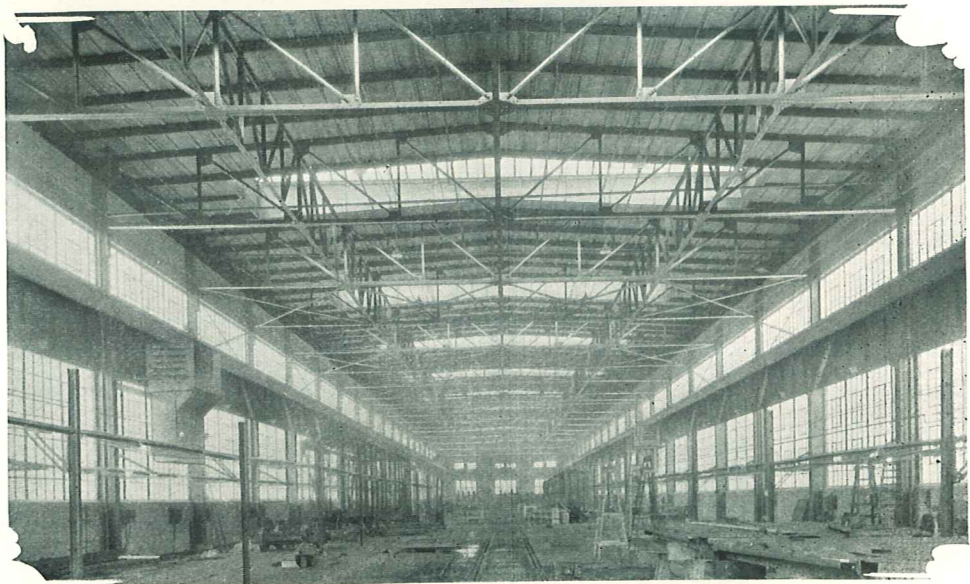
FEDERAL-AMERICAN CEMENT TILE CO. • CHICAGO

The up-to-date car shops of the Chicago, Milwaukee & St. Paul R. R. at Milwaukee, a thousand feet long, roofed entirely with Featherweight Concrete Slabs. Impervious to smoke, gases, cinders, steam and the elements, this roof is naturally the choice of railroad men.

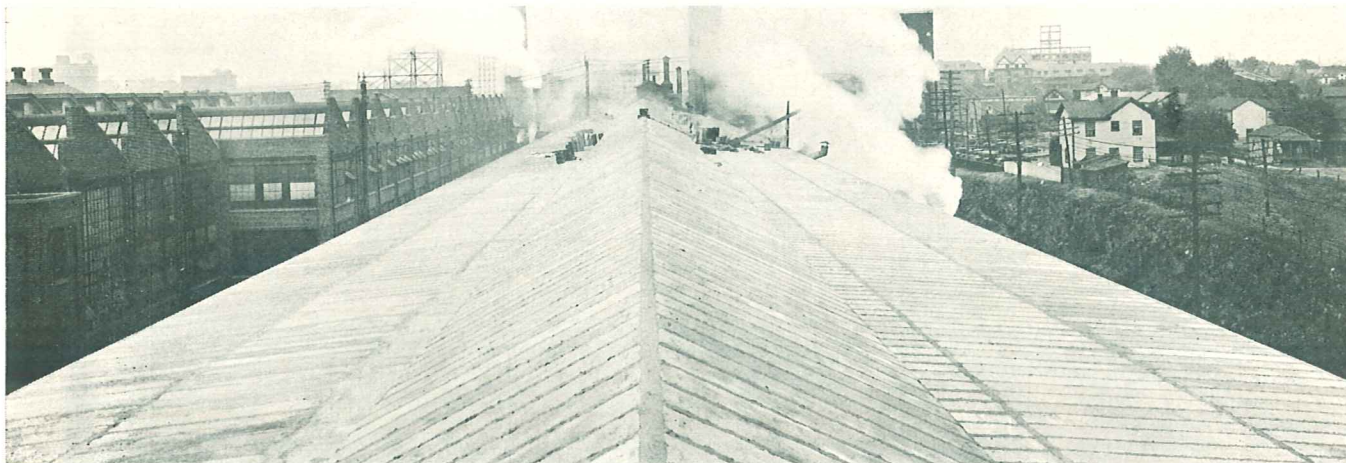


The Milwaukee Electric Railway & Light Co. Cold Spring Shops, Milwaukee. Note the beautifully smooth, regular appearance of the underside of this roof of Featherweight Concrete slabs. It needs no painting or other treatment.

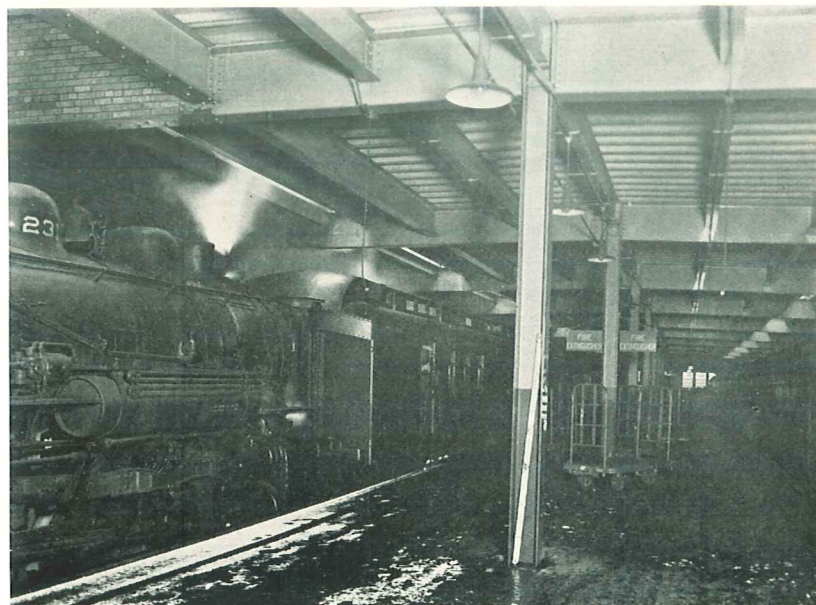
Car Repair Shop of Rock Island R. R. at El Reno, Oklahoma, covered with Featherweight Concrete slabs. This is but one of several Federal installations for this line. Most of the other prominent roads, too, have found it good business to use Federal.



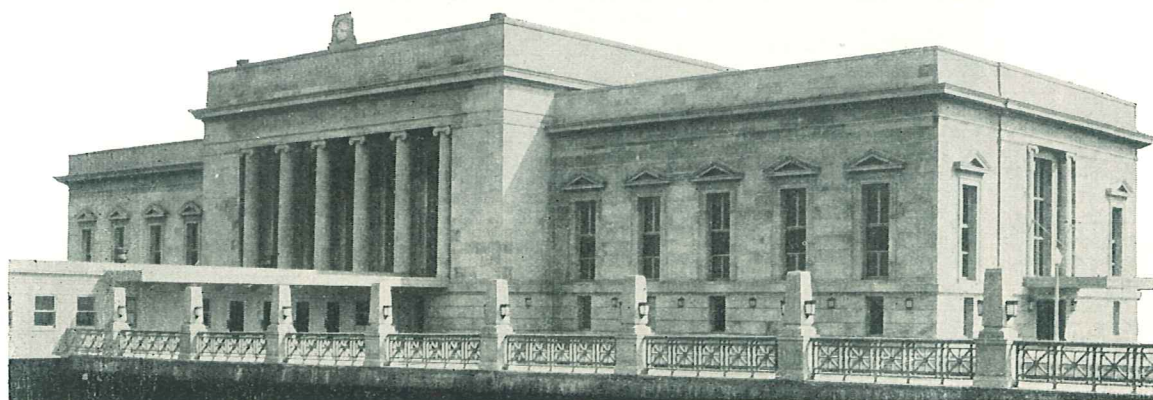
FEDERAL-AMERICAN CEMENT TILE CO. - CHICAGO



Norfolk & Western Ry. Smith Shop, Roanoke, Va., covered with Featherweight Concrete Insulating Roof Slabs. The area is about 80,000 sq. ft. including also a Wash and Locker Room Building and Office Building not shown.



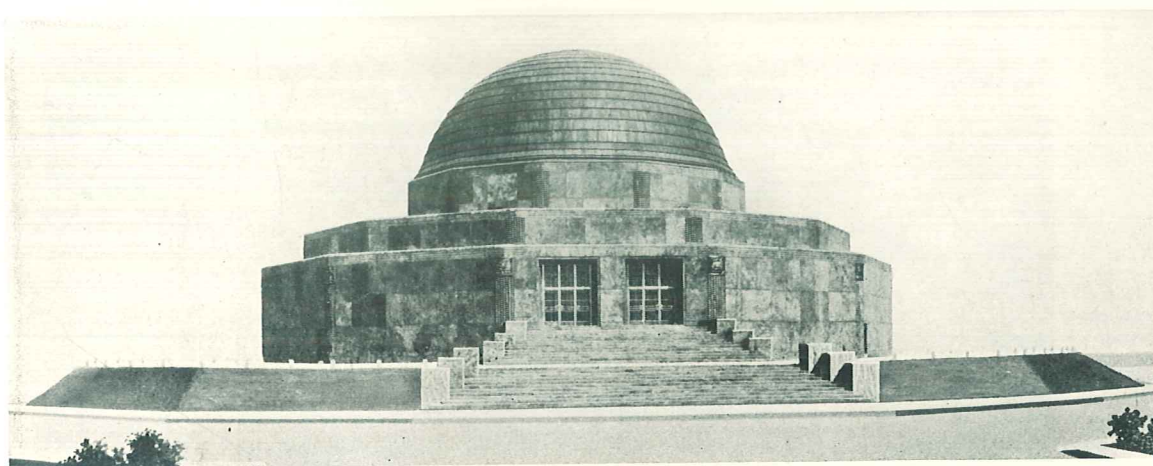
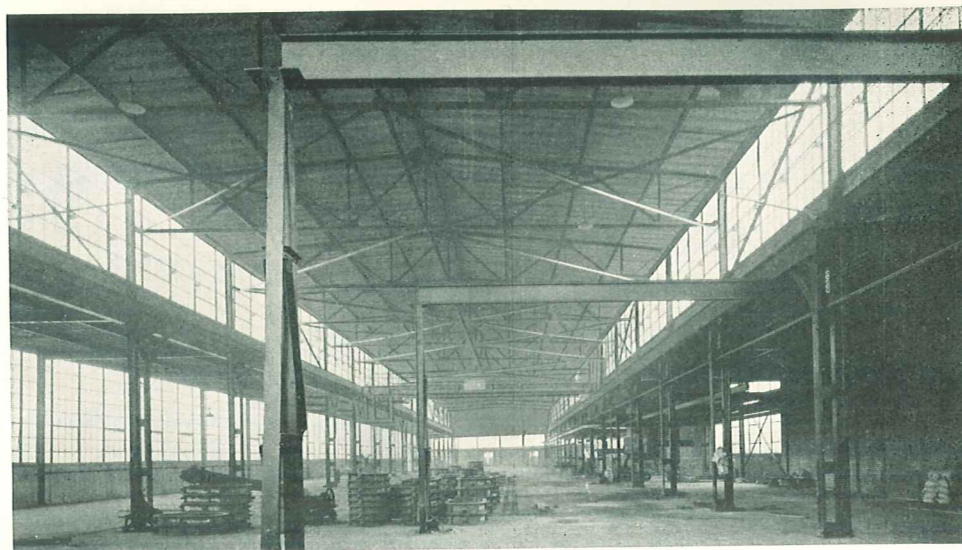
Chicago & Western Indiana R. R. Mail Terminal, Chicago, covered with Featherweight Concrete Insulating Roof Slabs. What other roof material could stand this punishment every day, year after year?



Burlington Railroad Station, Omaha, Nebr. with Featherweight Concrete Insulating Roof Slabs over Main Waiting Room, Concourse and Stairs. The roof of this splendid building is as permanent as the foundation.

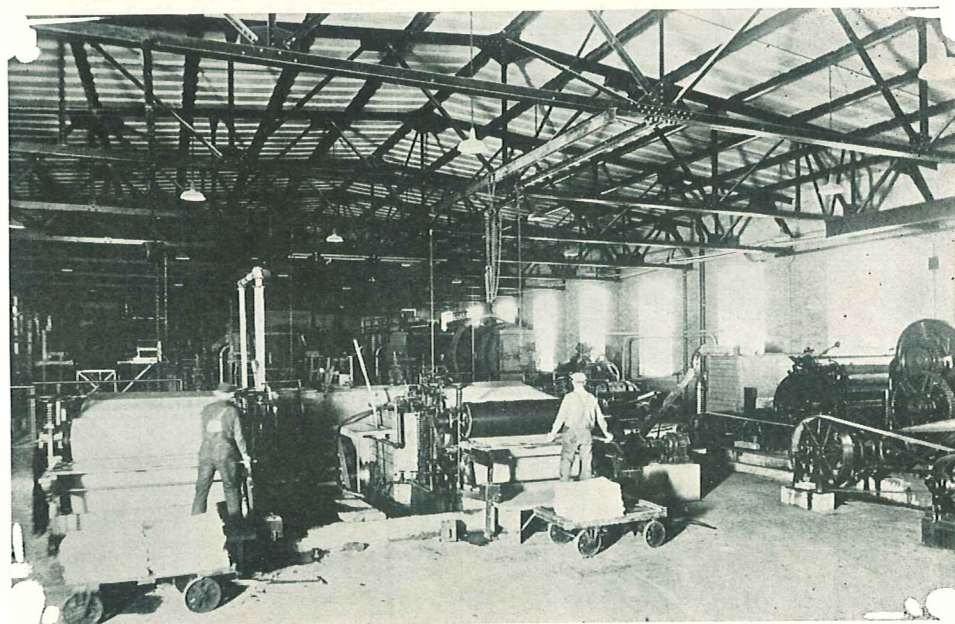
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Columbia Radiator Corp., McKeesport, Pa. Gray Iron Foundry with roof of Featherweight Concrete Slabs. These slabs make the most satisfactory foundry roof available because they are not affected by heat, fumes or gases. There is no maintenance whatever.

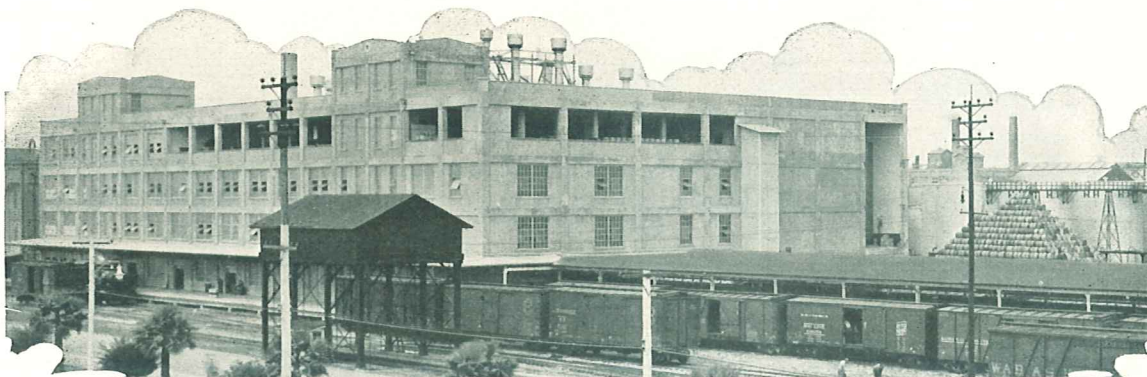


Chicago's new Adler Planetarium, displaying a unique panorama of the heavens with the relative positions of the stars and planets. This monumental structure is roofed for permanence and fire-safety with Featherweight Concrete Insulating Roof Slabs.

Wet room of the Nekoosa-Edwards Paper Co., Nekoosa, Wis. roofed with Featherweight. The presence of moisture demands the use of a permanent roof material like concrete, that will not rot, rust or disintegrate. Many prominent paper mills have used Federal successfully for years.

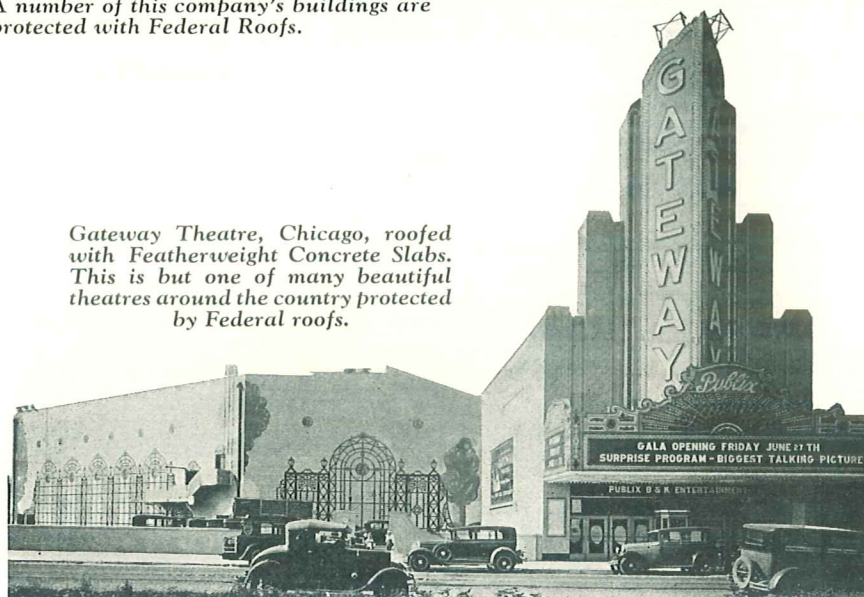


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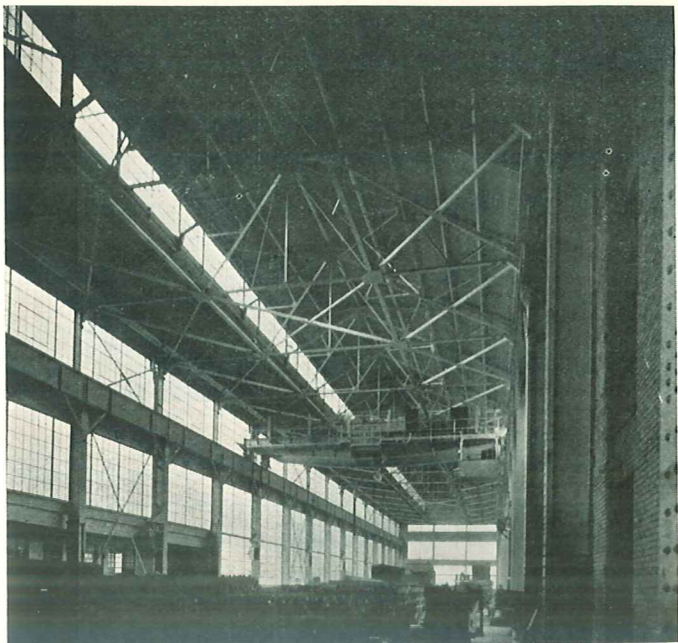
Compounding and Cooperage Building of the Texas Co., Pt. Arthur, Texas, roofed with Featherweight Concrete slabs. A number of this company's buildings are protected with Federal Roofs.

Gateway Theatre, Chicago, roofed with Featherweight Concrete Slabs. This is but one of many beautiful theatres around the country protected by Federal roofs.



Shreveport, La. Auditorium, a modern public building with permanent, fireproof roof of Featherweight Concrete Insulating Slabs.

FEDERAL-AMERICAN CEMENT TILE CO. - CHICAGO



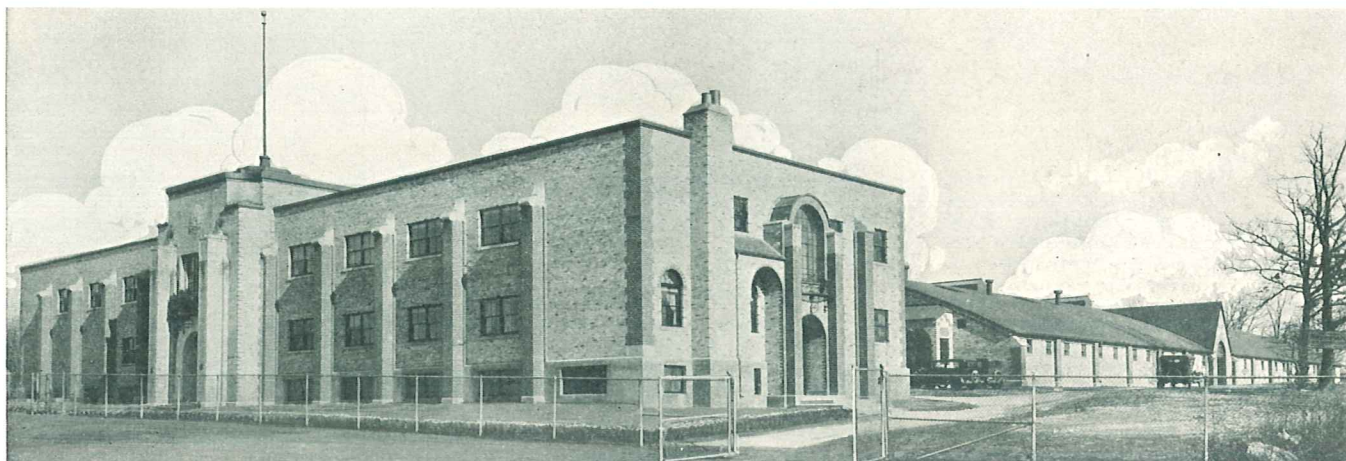
Mesta Machine Co., Homestead, Pa. Extension to machine shop, covered with Featherweight Concrete Insulating Roof Slabs. The most prominent industries in the country use these slabs because they recognize the investment value of permanence.

This splendid auditorium at Flint, Michigan, erected by the Industrial Mutual Association is roofed entirely with Featherweight Concrete Slabs. There is no finer roof for public buildings of any kind—schools, gymnasiums, theatres, sports buildings, churches, libraries and the like.



A concrete roof on the same steel originally designed for lighter material — at the plant of the Globe Steel Tubes Co., Milwaukee. Featherweight Concrete Roof Slabs were used because roof service is not a factor to be gambled with.

FEDERAL-AMERICAN CEMENT TILE CO. - CHICAGO

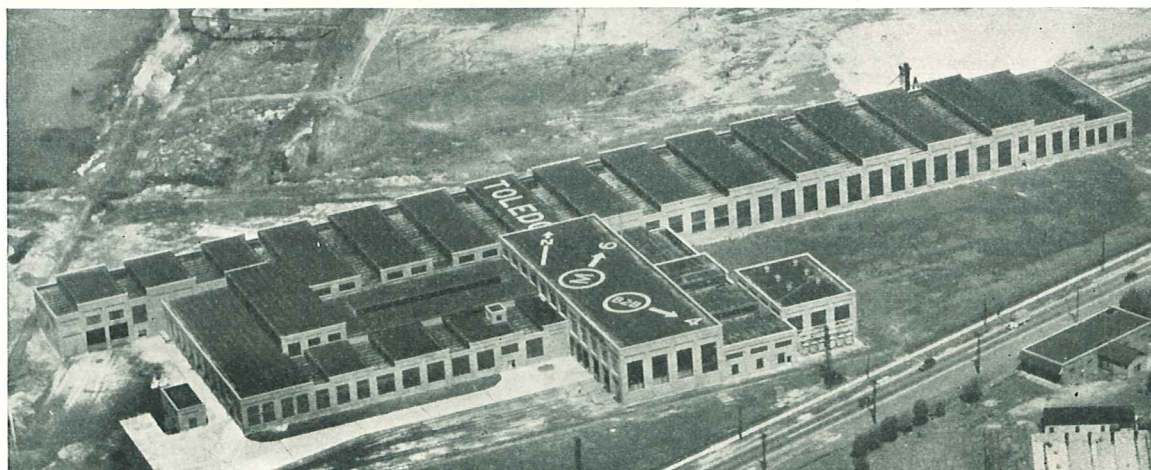


Light Horse Squadron Armory, Milwaukee, Wis., an excellent example of modern public building design with safety assured by a roof-deck of Featherweight Concrete Insulating Slabs.



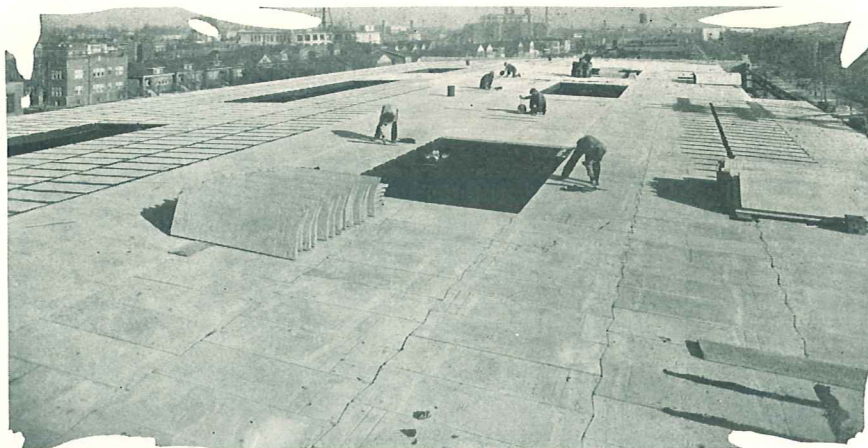
Factory building of the Hercules Motor Corporation, Canton, Ohio, covered with Featherweight Concrete Insulating Roof Slabs. A permanent roof is good insurance against interruptions to production.

Airplane view of the Libby Owens-Ford-Glass Co., Toledo, Ohio. This entire roof area comprising over 200,000 sq. ft. is covered with Federal precast concrete slabs. Good construction always costs less in the end.



FEDERAL-AMERICAN CEMENT TILE CO. - CHICAGO

Wieland Dairy, Chicago, showing how Featherweight Concrete Insulating Roof Slabs are laid to form a permanent, fireproof roof-deck requiring no expense for painting, repairing or other maintenance.



A. O. Smith Corporation Research Laboratory, Milwaukee, Wis. The roof of Featherweight Concrete Slabs is but one of the many modern features that have focused public attention on this building. There are no movable windows, all ventilation being produced from within.

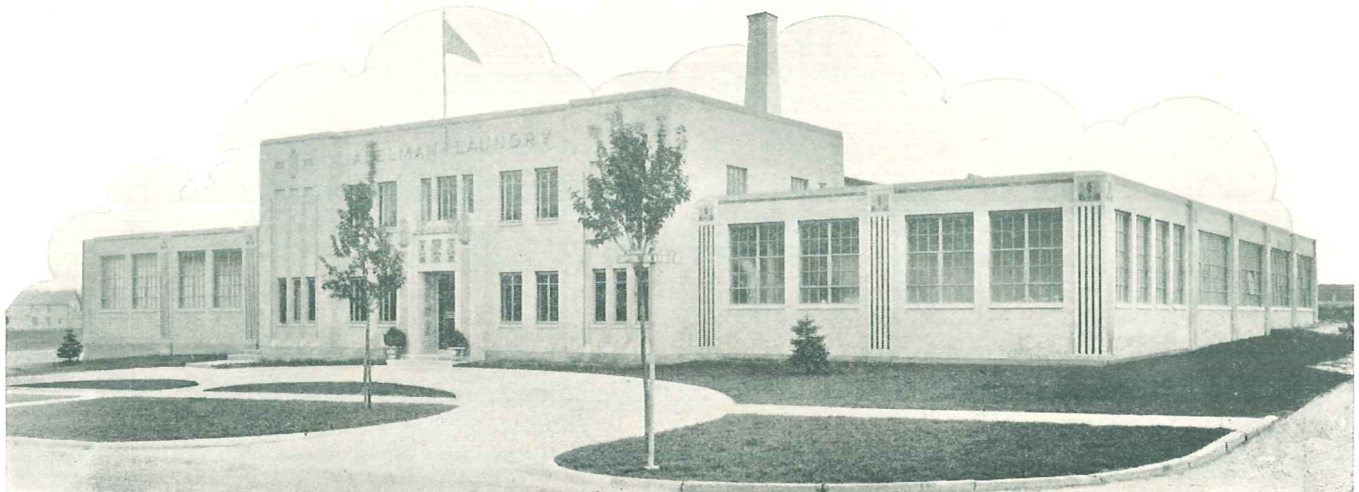
General Electric Appliance Co., Chicago. The trend toward the Featherweight Concrete roof-deck is as marked as the parallel developments in daylighting, ventilation and other elements of modern building design.



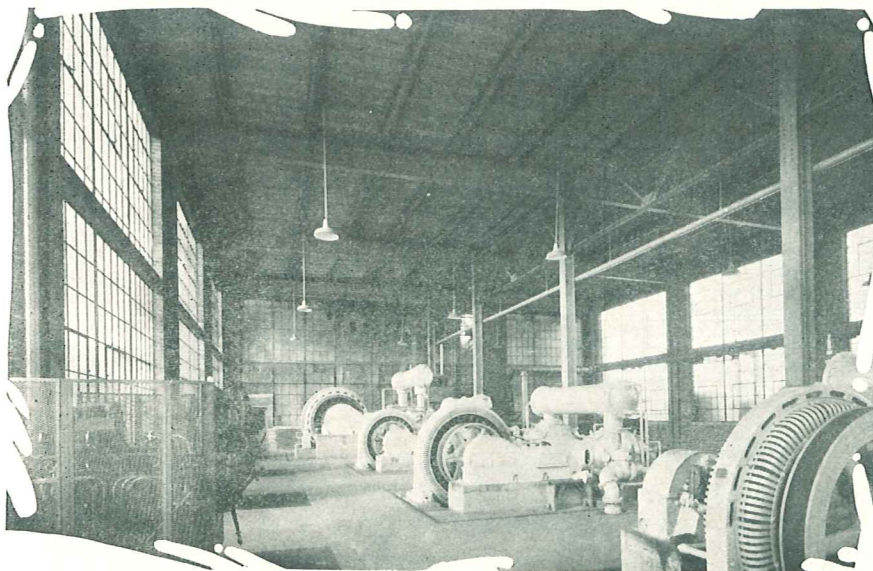
FEDERAL-AMERICAN CEMENT TILE CO. - CHICAGO



Foundry of Glancy Malleable Corp., Waukesha, Wis., with deck of Featherweight Concrete Insulating Roof Slabs. A foundry is undeniably the place for a roof unaffected by heat, vapors, acid fumes, smoke, etc. Featherweight Concrete will neither rot, rust nor disintegrate.



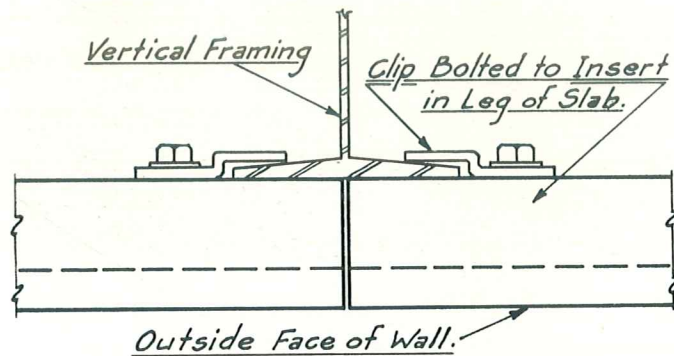
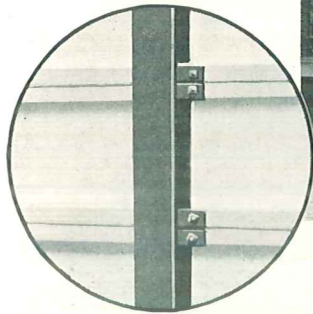
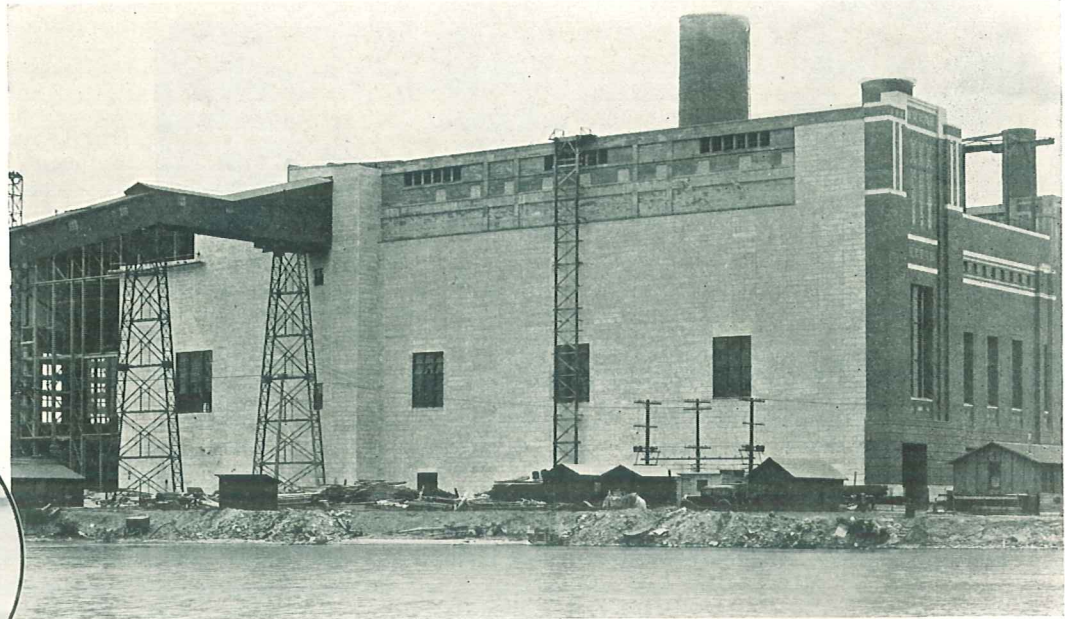
Adelman Laundry, Milwaukee, is a striking example of the modern laundry building, attractive, yet embodying sound features of construction to retain its worth over the years. The roof-deck is of Featherweight Concrete Insulating Slabs.



Interior of compressor room for Chrysler Motors at Detroit. The valuable machinery shown must have the safest kind of roof protection—such as the Featherweight Concrete slabs on this building afford. Incidentally Federal has furnished over a million square feet of roof for Chrysler in the United States and Canada—one building alone being almost a half-mile long!

FEDERAL-AMERICAN CEMENT TILE CO. - CHICAGO

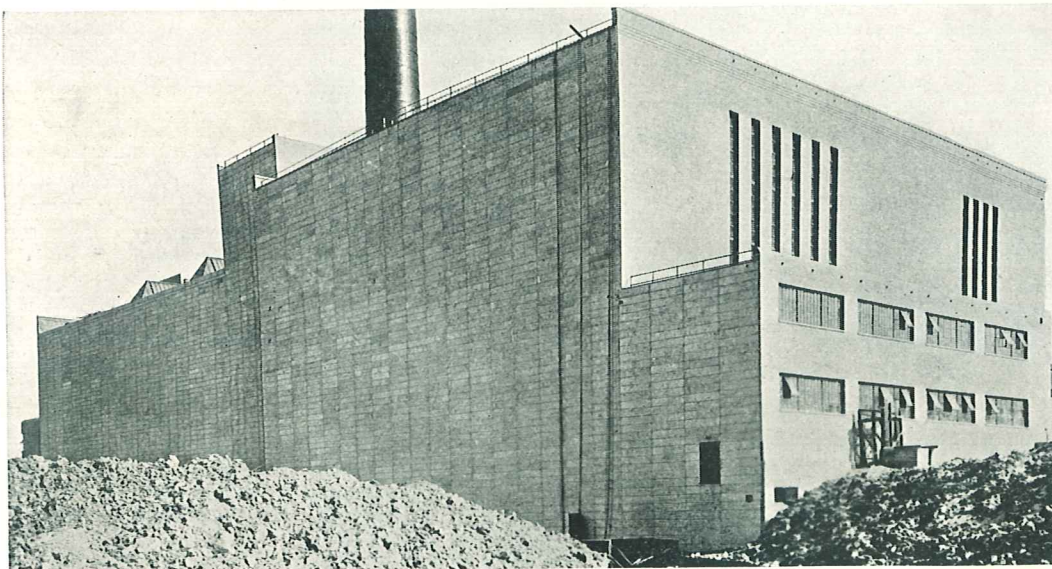
Waukegan Generating Co. station of the Public Service Co. of Northern Illinois at Waukegan, Ill., with end wall built of Featherweight Concrete Precast Slabs.



Wall Slabs

Federal slabs are particularly advantageous for forming the walls of power houses or other buildings to allow for future expansion, since these slabs may be re-used with full salvage value as often as it is necessary to move the wall.

They are of channel section, cast in lengths to fit the steel framing. Illustrations show method of securely fastening the slabs to the steel.



Michigan City Generating Station of the Northern Indiana Public Service Co., showing end wall of Featherweight Concrete Precast Slabs.

FEDERAL-AMERICAN CEMENT TILE CO. - CHICAGO



Cubs Baseball Park, Chicago, showing Federal Precast Concrete Grand Stand Slabs. Other similar installations include the Houston Texas Baseball Park; Michigan State Fair Grounds, Detroit; Atlanta, Ga. Baseball Park; Washington Park Race Track, Chicago; Missouri Valley College Stadium, Marshall, Mo.; Woodlawn High School Stadium, Birmingham, Ala.; Coliseum, Chicago.



Chicago Rapid Transit Line, Kinzie St. "L" Station. The platforms on both sides are Featherweight Concrete Slabs covered with asphalt plank. The risers and treads of the five stairways are also Federal Slabs, the treads having top surface of carborundum to prevent slipping. The connecting passageway to the Merchandise Mart is similarly floored with these slabs.

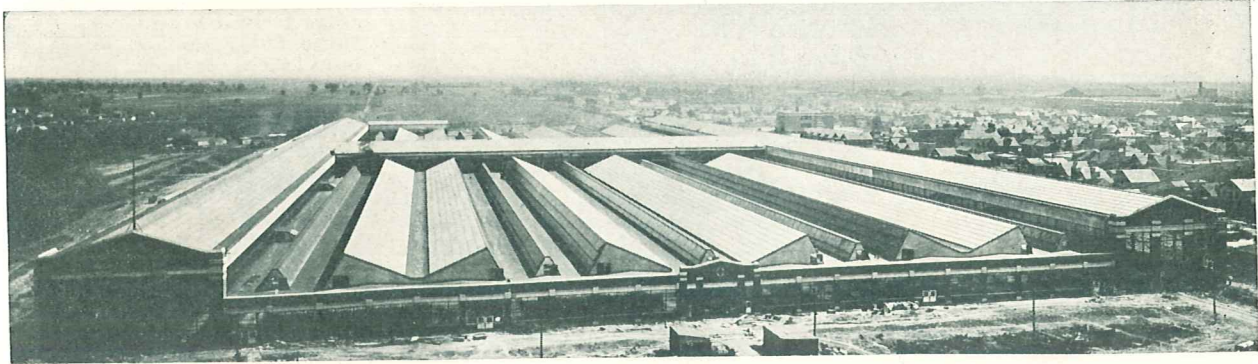
Ford Museum Building, Dearborn, Michigan, showing floor of Featherweight Concrete Precast Slabs ready to be covered over with a mastic surface. This building has over 300,000 sq. ft. of floor space.



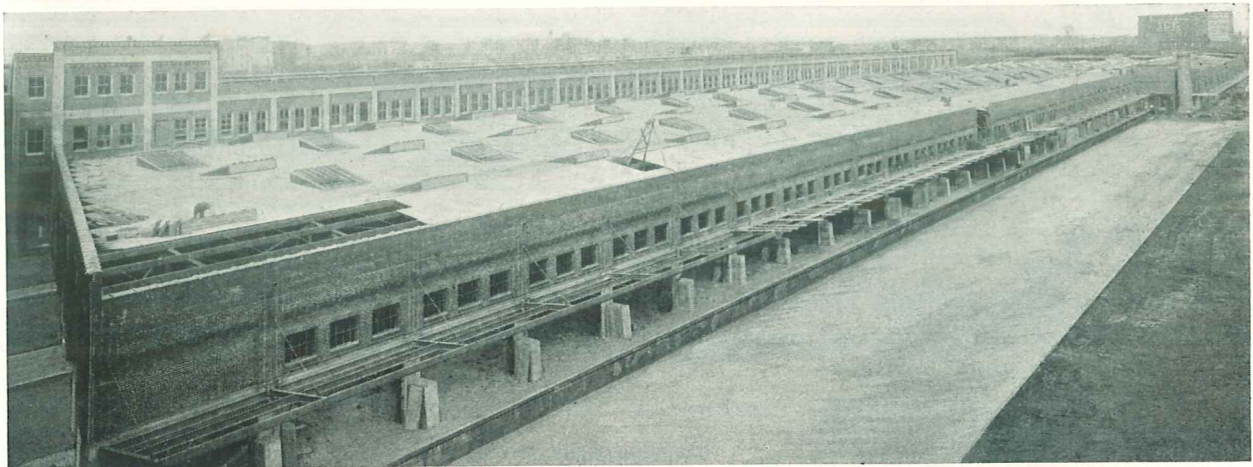
Slabs are also furnished for conveyor floors. On inclined surfaces, treads are provided.

FEDERAL-AMERICAN CEMENT TILE CO. - CHICAGO

Some of Our Other Installations



Ford Motor Company of Canada, Ltd., Ford, Ontario, covered with Federal Precast Concrete Slabs. This is but one of the many Ford plants in Canada and all sections of the United States, protected with several million square feet of Federal Roofs.

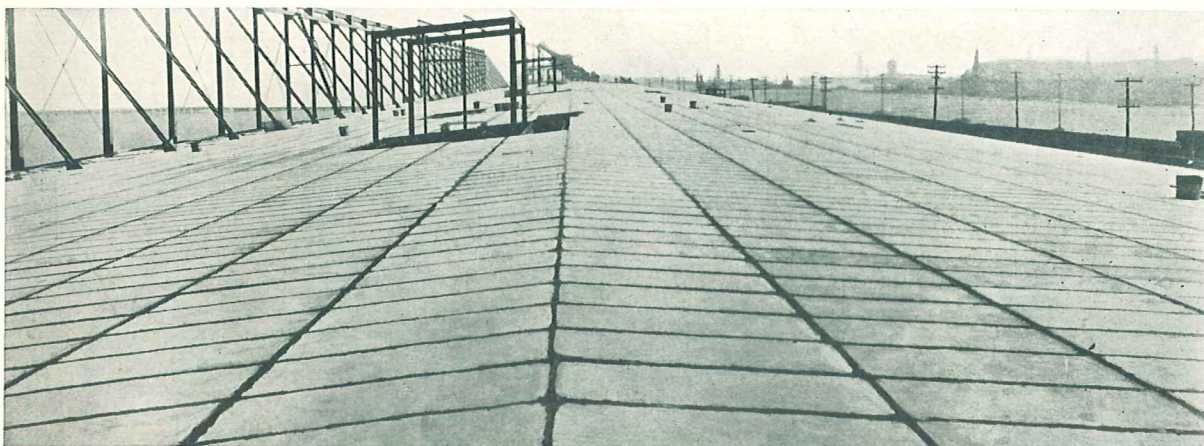


Terminal Building of the American Railway Express Co. and Pennsylvania R. R. at Long Island City, N. Y. roofed with well over 200,000 sq. ft. of Precast Concrete Slabs.

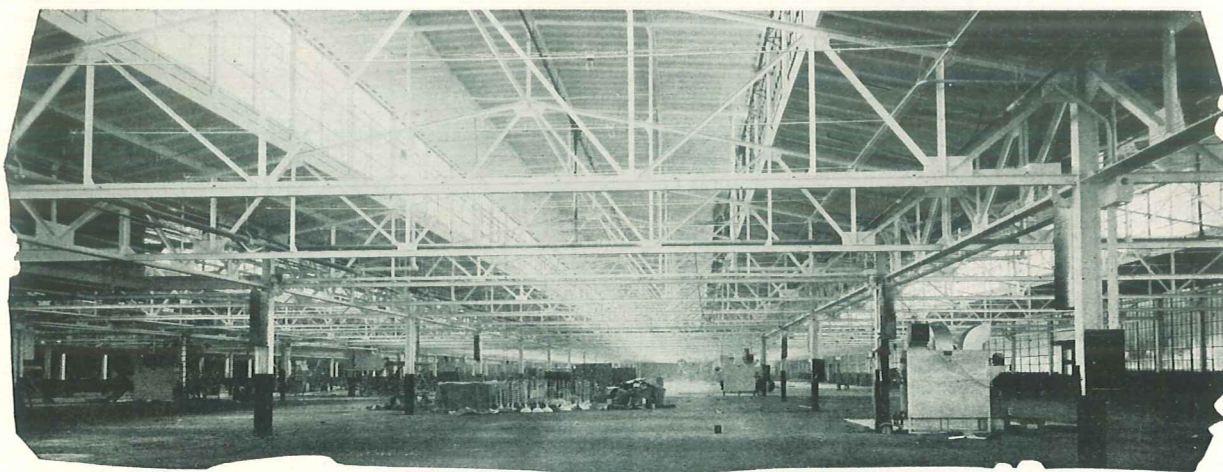


Interior of Concourse, Chicago Union Station, showing the attractive paneled ceiling effect of the Federal Roof Slabs. In addition, the train sheds $\frac{3}{4}$ of a mile long and a city block wide are covered with Federal Glass Tile as well as solid slabs.

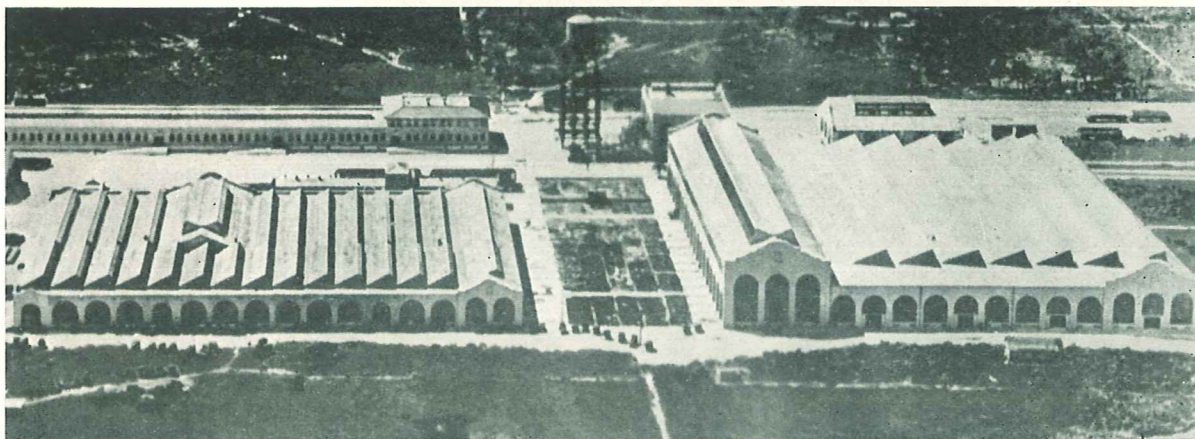
FEDERAL-AMERICAN CEMENT TILE CO. - CHICAGO



Lehigh Valley R. R. Freight Terminal Pier, Jersey City, N. J. with almost 100,000 sq. ft. of Precast Concrete Roof Slabs. Shows roof-deck ready for weather-proof covering.

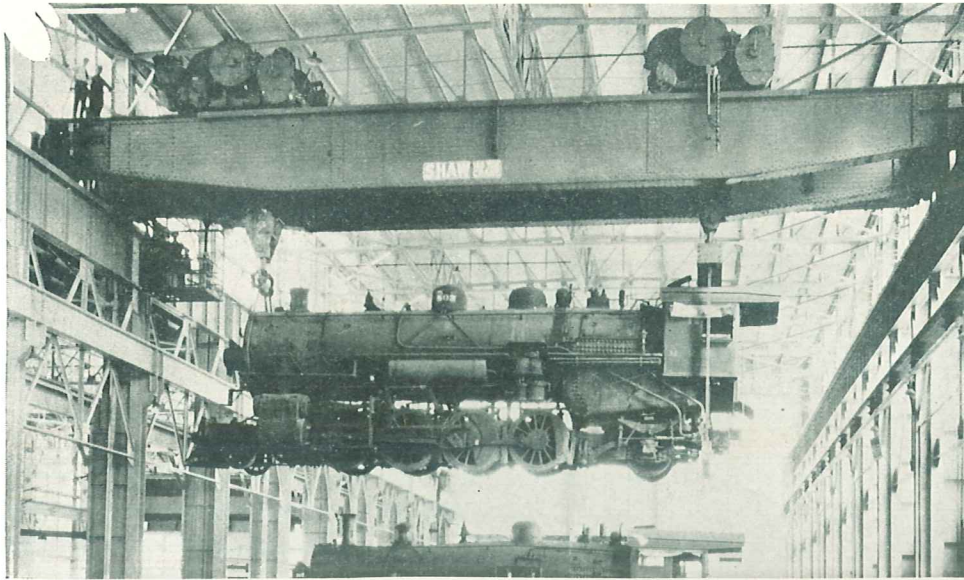


General Motors Oakland-Pontiac plant at Pontiac, Mich. A half-million square feet of Federal Slabs were used on this addition, following a million square feet on the original buildings.



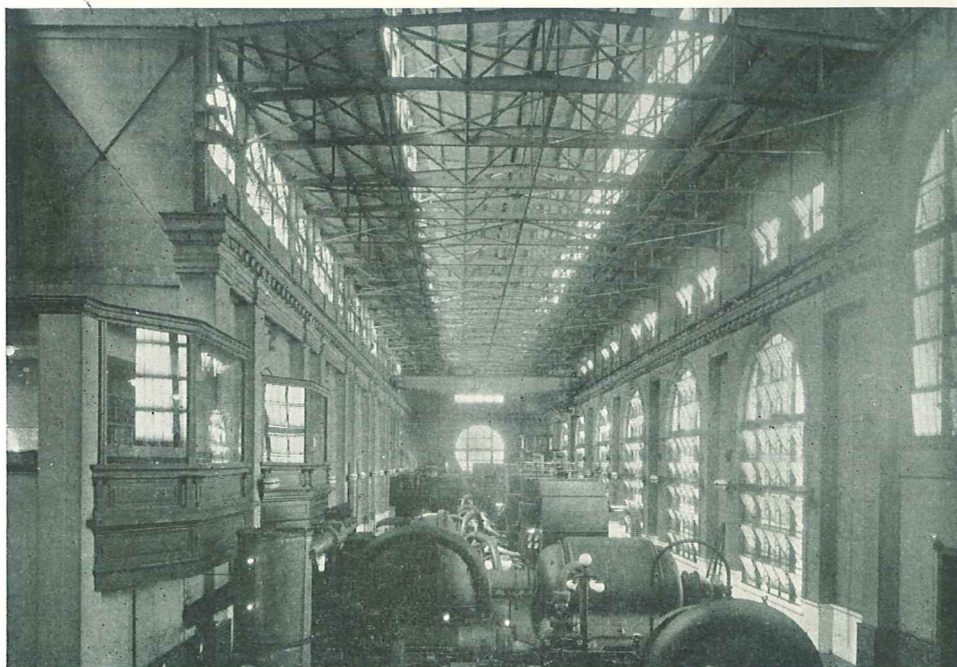
Florida East Coast R. R. Co., Miller Shops at St. Augustine, Fla. Roofed with approximately 500,000 sq. ft. of Precast Concrete Slabs.

FEDERAL-AMERICAN CEMENT TILE CO. - CHICAGO



The Katy locomotive shops, Waco, Texas. One of several units roofed with Federal Precast Concrete Slabs. A glance at the partial list of railroad users of Federal on page 29, will indicate the success of this roof under the severe conditions of railroad service, over a period of a quarter-century.

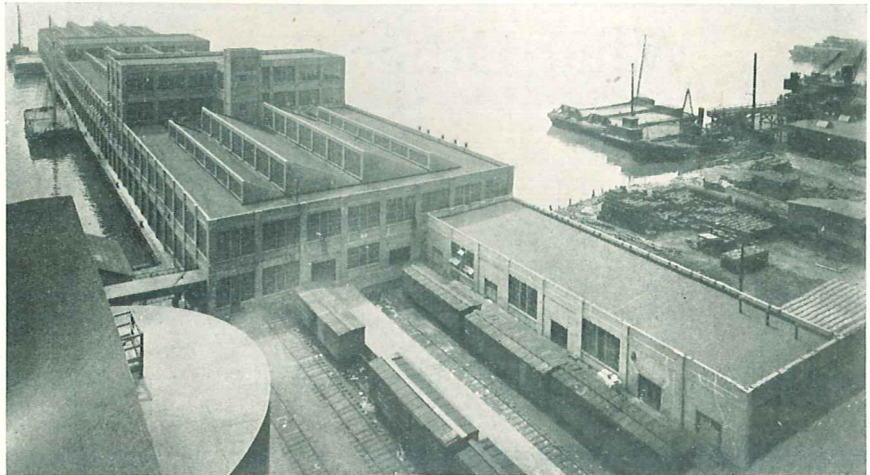
St. Patrick's Church, Indianapolis, Ind., which safeguards the lives of its congregation with a Federal fireproof concrete roof. Buildings of this type frequently utilize also the Federal Nailing Concrete Slabs to which ornamental tile or slate are directly nailed.



Power House of the Cleveland Electric Illuminating Co., where the present roof of Precast Concrete Slabs replaced the original roof of another type. The re-roofing was done with the plant in full operation without interruption or harm to the valuable machinery below.

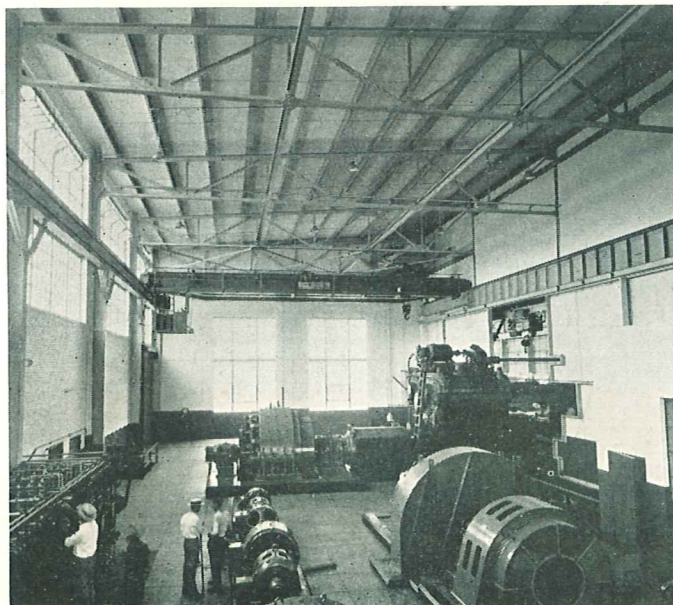
FEDERAL-AMERICAN CEMENT TILE CO. - CHICAGO

Corn Products Refining Co. plant at Edgewater, N. J., covered with over 100,000 sq. ft. of Precast Concrete Slabs. The roster of Federal customers reads like a Blue Book of industry.



Paramount Theatre, Montgomery, Ala., one of several Paramount houses roofed with Precast Concrete Slabs. Others are at Lynchburg, Va., Bristol, Tenn., Brooklyn, N. Y., Fond du Lac, Wis., Newport News, Va., Chicago, etc.

Motor Room of the Gulf States Steel Co., Alabama City, Ala., showing the finished ceiling effect of the underside of the Precast Concrete Roof Slabs. There is no maintenance whatever—no painting, repairing or replacements.



FEDERAL-AMERICAN CEMENT TILE CO. - CHICAGO

What Other Roof Deck Can Offer All of These Many Advantages?

- 1 PERMANENCE—Reinforced concrete needs no brief today for its time-defying qualities. No other material can possibly equal concrete for permanence. No Federal roof-deck has ever been known to wear out.
- 2 FIREPROOFNESS—A concrete roof-deck is a perfect safeguard against the ravages of fire and resulting interruptions to your activities. This safety factor is acknowledged by all authorities; insurance companies quote lower rates.
- 3 NO MAINTENANCE—because being concrete, this roof-deck requires no painting, repairing or replacement.
- 4 IMPERVIOUS—to heat, cold, water, rust, steam, smoke, fumes and other disintegrating elements. Immune to these destructive forces, the precast concrete roof-deck is the most practical covering obtainable for all industrial, railroad and public buildings.
- 5 STRENGTH WITH LIGHT WEIGHT—Featherweight Concrete slabs are as strong as sand concrete but weigh as low as 10 lbs. per sq. ft. This new light weight effects great savings in the steel superstructure, as well as in the roof-deck itself.
- 6 INSULATING VALUE—The cellular structure of Featherweight Concrete slabs, embodying countless trapped air cells, gives insulating qualities new to concrete.
- 7 SPEED OF ERECTION IN ANY WEATHER—Being factory-made, the precast concrete slab is detailed by experienced draftsmen to fit the structural steel and is shipped to the job and hoisted direct from cars to roof. The entire roof-deck is speedily erected, *regardless of temperature conditions.*
- 8 PERFECT BASE FOR COMPOSITION ROOFING—hard and dry. The covering adheres firmly and smoothly and lasts longer, without maintenance. No delay waiting for roof-deck to dry out before applying the composition.
- 9 ATTRACTIVE APPEARANCE—The underside of these slabs presents a finished ceiling of natural cement color which in itself is so pleasing as to require no other covering, painting or treatment.
- 10 ONE RESPONSIBILITY—The precast concrete roof-deck is furnished by Federal, laid by our own force of skilled, experienced men and is guaranteed by the same organization—a guarantee backed by integrity, reputation and resources.
- 11 ENGINEERING SERVICE—An experienced staff of roof engineers offers practical co-operation on any job anywhere in the country. These engineers know roof design and construction, and are qualified to work with you on the most economical layout of both structural steel and slabs. Your inquiries are invited—no obligation entailed.

FEDERAL-AMERICAN CEMENT TILE CO. - CHICAGO

A Few Users of Our PRECAST CONCRETE ROOF SLABS

(See also list on page 44)

Automobile Companies

Bendix Aviation Corporation, South Bend, Ind.
Briggs Manufacturing Co., Detroit, Mich.
Buick, Flint, Mich.
Cadillac, Detroit, Mich.
Checker Cab Manufacturing Co., Kalamazoo, Mich.
Chevrolet, Oakland, Cal.; Detroit, Atlanta, Ga.; Tarrytown, N. Y.; St. Louis, Buffalo, Kansas City, etc.
Chrysler, Detroit, Mich.; Newcastle, Ind.; Walkerville, Ont.
Dodge, Detroit, Mich.
Fisher Body, Detroit, Lansing, Mich.; Tarrytown, Ford, Detroit, Jacksonville, Fla.; Chicago, Memphis, Chester, Pa.; Dallas, St. Paul, Somerville, Mass.; Salt Lake City, Walkerville, Ont.; Charlotte, N. C.
Graham-Paige, Detroit and Wayne, Mich.
Hudson, Detroit, Mich.
Hupp, Jackson, Mich.
Kelsey-Hayes Wheel Co., Detroit, Mich.
Mack Truck, Milwaukee, Wis.
Marmon, Indianapolis, Ind.
Murray Body, Ecorse, Mich.; Memphis, Tenn.
Nash, Kenosha and Racine, Wis.
Oakland, Pontiac, Mich.
Oldsmobile, Lansing, Mich.
Packard, Detroit, Mich.
Reo, Lansing, Mich.
Studebaker, South Bend, Ind.; Detroit, Mich.
White Truck, Milwaukee, Wis.
Willys-Overland, Toledo, Ohio.
Yellow Cab and Truck, Pontiac, Mich.

Aviation

Bendix Aviation Corp., So. Bend, Ind.
Curtiss Aeroplane Co., Buffalo
Detroit Municipal Airport (200,000 sq. ft.)
Detroit Airport Hangar
Ford Hangars at Dearborn, Mich.; Lansing, Ill.; and Cleveland, Ohio
Lawrence Fisher Hangar, Detroit
Pratt & Whitney Aircraft Co., E. Hartford, Conn.
Terminal Bldg., City of Birmingham, Ala. Airport
Wayne County Airport (50,000 sq. ft.)

Cement Plants

Alpha Portland Cement Co., Ironton, Ohio; La Salle, Ill.; Catskill, N. Y.; Alpha, Mo.; Birmingham
Ash Grove Lime and Cement Co., Louisville, Neb.
Great Lakes Port. Cement Corp., Buffalo
Keystone Portland Cement Co., Bath, Pa.
Lehigh Portland Cement Co., Oglesby, Ill.; Birmingham, Ala.
Lone Star Portland Cement Co., Dallas Texas; Birmingham, Ala., etc.
Marquette Cement Mfg. Co., La Salle, Ill.; Cape Girardeau, Mo.
Medusa Port. Cement, Wampum, Pa.; York, Pa.
North American Cement Corp., Hagerstown, Md.; Howe's Cave, N. Y., and Security, Md.
Peerless Portland Cement Co., Detroit, Mich.
Penn Dixie Cement Co., Chattanooga
Sandusky Cement Co., Sylvania, Ohio
South Dakota State Cement Plant, Rapid City, S. D.
Texas Portland Cement Co., Fort Worth, Houston.
Universal Atlas Cement Co., Buffington, Ind.; Duluth, Minn.; Waco, Texas; Homestead, Bessemer, Pa.
Wabash Portland Cement Co., Stroh, Ind.; Osborne, O.
West Penn Port. Cement Co., Butler, Pa.

Churches and Institutions

East Grand Methodist Church, Detroit, Mich.
Fourteenth Church of Christ Scientist, Chicago, Ill.
Holy Rosary, Pittsburgh
Ill. State Reformatory, Pontiac, Ill.
Ind. Soldiers & Sailors Orphans Home, Knightstown
Institution for Feeble Minded, Columbus, Ohio
Kings County Hospital, Brooklyn
Knights of Columbus Church, Omaha, Nebr.

Lawrence Hospital, New London, Ohio
Mariners Harbor Baptist Church, Staten Island, N. Y.
Masonic Temple, St. Louis, Mo.
North Ave. Presbyterian Church, Atlanta
Sacred Heart Church, Rochester, N. Y.
Scottish Rite Cathedral, Houston, Texas
St. Aloysius Church, Detroit
St. Francis Hospital, Grand Island, Nebr.
St. Patrick's Church, Indianapolis, Ind.
St. Thomas Church, Minneapolis, Minn.
State Hospital, Clinton, N. J.
State Prison, Montgomery, Ala.
Temple Sholem, Chicago, Ill.
University of Chicago Chapel, Chicago, Ill.
Women's State Reformatory, Dwight, Ill.

Farm Implement Plants

Advance-Rumley, LaPorte, Ind.
Caterpillar Tractor Co., Peoria, Ill.
Deere & Co., Moline, Ill.; Waterloo, Iowa
Emerson-Brantingham, Rockford, Ill.
Fairbanks, Morse & Co., Beloit, Wis.
Ford Motor Tractor Works, Dearborn, Mich.
International Harvester Co., Chicago, Ill.; Dubuque, Iowa; Fort Wayne, Ind.; Milwaukee, Wis.
Moline Plow, Moline, Ill.
Oliver Farm Equipment Company, South Bend, Ind.; Battle Creek, Mich.; Charles City, Iowa.
Van Brunt Manufacturing Co. (Deere & Co.), Hicon, Wis.

Food and Packing Plants

American Maize Products Co., Roby, Ind.
Armour & Co., Chicago, Ill.; St. Paul, Minn.; Omaha
Best Foods Inc., Bayonne, N. J.
Campbell Soup Co., Chicago and Camden, N. J.
Corn Products Refining Co., Chicago, Ill.; Kansas City, Mo.; Pekin, Ill.; Edgewater, N. J.
Continental Baking Co.; Kansas City, Mo.; Detroit
Dayton Biscuit Co., Dayton, Ohio
General Baking Co., Toledo, Ohio
Kohrs Packing Co., Davenport, Iowa
John Morrell & Sons, Ottumwa, Iowa
Morton Salt Co., Port Huron, Mich.
National Biscuit Co., Marseilles, Ill.; Los Angeles, Cal.
Owosso Sugar Company, Owosso, Mich.
Quaker Oats Co., Cedar Rapids, Iowa
Schulze Baking Co., Chicago, Ill.
Swift & Co., Chicago; Hammond, Ind.; La Grange, Ga.
White Provision Co., Atlanta
Wilson & Co., Chicago, Ill.
Wrigley Co., Chicago, Ill.

Foundries and Forge Shops

Advance Pattern & Fdry. Co., Chicago, Ill.
American Brake Shoe & Fdry. Co., Erie, Pa.
American Steel Foundries, Granite City, Ill.; Alliance, Ohio; Detroit, Mich.; E. St. Louis, Ill.; Hammond, Ind.; Indiana Harbor, Ind.
Baldwin Locomotive Wks., Eddystone, Pa.
Bohn Aluminum Corp., Detroit, Mich.
Century Electric Co., St. Louis, Mo.
James B. Clow & Son, Newcomerstown, Ohio
Columbia Radiator Co., McKeesport, Pa.
Crane Co., Chicago, Ill.; Bridgeport, Conn.
Deere & Co., Moline, Ill.; Waterloo, Iowa
Dilts Mach. Works, Fulton, N. Y.
Erie Foundry Co., Erie, Pa.
Federated Metals Corp., St. Louis, Mo.; Detroit
Foster Wheeler Corp., Dansville, N. Y.
General Steel Castings Co., Eddystone, Pa.
Glancy Malleable Corp., Waukesha, Wis.
Hardie-Tynes Mfg. Co., Birmingham
International Harvester Co., Auburn, N. Y.
Monroe Steel Castings, Monroe, Mich.
New Departure Mfg. Co., Bristol, Conn.
Panghorn Corp., Hagerstown, Md.
Pressed Steel Car Co., McKees Rocks, Pa.
Pullman Co., Chicago, Ill.

(Continued on pages 28 and 29)

FEDERAL-AMERICAN CEMENT TILE CO. - CHICAGO

Foundries & Forge Shops—(Cont.)

Rhode Island Mall. Iron Wks., Hills Grove, R. I.
 Simmons Co., Kenosha, Wis.
 Williams White Co., Moline, Ill.
 Woodward Iron Co., Woodward, Ala.

Garages

Bell Telephone Co., Reading, Pa.
 Boston Elevated Co.
 Burroughs Adding Machine Co., Detroit, Mich.
 Commodore Apartment Garage, Louisville, Ky.
 Commonwealth Edison Co., Chicago
 Concourse Garage, St. Louis, Mo.
 Crane Company, Chicago, Ill.
 Crawford Auto Shop, Birmingham
 Dixon Motor Co., Altoona, Pa.
 Hercules Motor Corp., Canton, Ohio
 Heppenstall Forge & Knife Co., Pittsburgh
 Mac-Whyte Co., Kenosha, Wis.
 Marshall Field & Co., Evanston, Ill.
 Meenam Coal Co., N. Y.
 Milwaukee Elec. Ry. & Lt. Co., Milwaukee & Delafield
 Murphy Transer & Storage Co., Minneapolis, Minn.
 Standard Sanitary Mfg. Co., Milwaukee, Wis.
 Texas Co., Canton, Ohio
 Wells-Fargo Co., Kansas City, Mo.
 Wood Chevrolet Co., Birmingham

Gymnasium and Sports Buildings

(See Schools)

Adrian College, Adrian, Mich.
 Albion College Gym., Albion, Mich.
 Alexander Gym., Lawrence College, Appleton, Wis.
 A. & M. College Gym., College Station, Texas
 Birmingham, Ala. Athletic Club Gym.
 Cranbrook School, Bloomfield Hills, Mich.
 Foch School Gym., Detroit, Mich.
 Hillsdale College Gym., Hillsdale, Mich.
 Holy Rosary Parish School Gym., Detroit, Mich.
 Loyola University Gym., Chicago, Ill.
 Michigan State Fair Coliseum, Detroit, Mich.
 New Trier High School Gym., Kenilworth, Ill.
 Univ. of Chicago Sunny Gym.
 U. of Michigan Yost Field House, Ann Arbor, Mich.
 U. of Michigan Intra-Mural Sports Bldg., Ann Arbor
 University of Texas Sports Building, Austin, Texas

Incinerators

Bar Harbor, Maine	Jackson, Miss.
Beverly Hills, Cal.	Jacksonville, Fla.
Birmingham, Ala.	Louisville, Ky.
Chattanooga, Tenn.	New Bedford, Mass.
Chicago, Ill.	New Brunswick, N. J.
Columbus, Ga.	Norfolk, Va.
Dallas, Texas	Pontiac, Mich.
Enid, Okla.	Raleigh, N. C.
Follansbee, W. Va.	Syracuse, N. Y.
Greensville, S. C.	Toledo, Ohio
Hammond, Ind.	

Oil Companies

Barnsdall Oil & Refining Co., Barnsdall, Okla.
 Empire Oil & Refining Co., Ponca City, Okla.
 Galena Signal Oil Co., Galena, Texas
 Gulf Refining Co., Port Arthur, Texas; Neville Is., Pa., etc.
 Indian Refining Co., Lawrenceville, Ill.
 Mid Continent Petroleum Co., Tulsa
 Penzoil Co., Rouseville, Pa.
 Pierce Oil Co., Sand Spring, Okla.
 Pure Oil Co., Heath, Ohio
 Shell Petroleum Corp., East Chicago, Ind.
 Sinclair Refining Co., East Chicago, Ind.; Detroit, Mich.; Wellsville, N. Y.; Chicago, Ill.; Marcus Hook, Pa.; Bolivar, N. Y.
 Standard Oil Co., Whiting, Ind.; Toledo, Ohio; Baton Rouge, La.; Casper, Wyo.; Camden, N. J.
 Texas Co., Port Arthur; Newark, N. J.; Claymont, Del.
 Vacuum Oil Co., Paulsboro, N. J.

Paper Mills

Champion Fibre, Canton, N. C.
 Consolidated Paper Co., Monroe, Mich.
 Consolidated Water Pr. & Paper Co., Wis. Rapids, etc.

Crown-Willamette Paper Co., Camas, Wash.
 Downington Paper Co., Downington, Pa.
 Fox River Paper Co., Appleton, Wis.
 Harriman Co., Harriman, Tenn.
 International Paper Co., Herkimer, N. Y.
 John H. Heald Co., Lynchburg, Va.
 Kimberly-Clark Co., Kimberly, Wis.; Niagara, Wis.
 Marathon Paper Mills, Rothschild, Wis.; Ashland, Wis.
 Mead-Fibre Co., Kingsport, Tenn.
 Mead-Straw Pulp Co., Chillicothe, Ohio
 New Haven, Conn. Pulp Board Co.
 Morris Paper Mills, Morris, Ill.
 Munising Paper Co., Munising, Mich.
 National Paper Prod. Co., Port Townsend, Wash.
 Nekoosa Edwards Paper Co., Port Edwards, etc.
 Northern Paper Mills, Green Bay, Wis.
 Ravenswood Paper Co., Long Island, N. Y.
 Rhinelander Paper Co., Rhinelander, Wis.
 Riverside Paper Mills, Appleton, Wis.
 Sonoco Prod. Co., Hartsville, S. C.
 Thilmany Pulp & Paper, Thilmany, Wis.
 Waldorf Paper Prod. Co., St. Paul, Minn.
 Warren Mfg. Co., Warren Glenn, N. J.

Public Buildings

Adler Planetarium, Chicago, Ill.
 Armory for Illinois Naval Reserves, Chicago
 Art Institute of Chicago, Chicago, Ill.
 Fairmount Mausoleum, Newark, N. J.
 Field Museum, Chicago, Ill.
 Ford Museum (Floor Slabs), Dearborn, Mich.
 Haish Memorial Library, DeKalb, Ill.
 Historical Society of Western Pa., Pittsburgh
 Industrial Mutual Ass'n Auditorium, Flint, Mich.
 Joslyn Memorial Auditorium, Omaha, Nebr.
 Light Horse Squadron Armory, Milwaukee
 Memorial Auditorium, Wellington, Kans.
 Michigan State Fair Buildings, Detroit, Mich.
 Minneapolis Auditorium, Minneapolis, Minn.
 Minnesota State Fair Buildings, St. Paul, Minn.
 Municipal Auditorium, Shreveport, La.
 North Birmingham, Ala. Public Library
 Regimental Armory, 124th Field Art., I.N.G., Chicago
 Rhode Island Auditorium, Providence
 Shedd Aquarium, Chicago, Ill.
 Wigmore Coliseum, Cleveland

Public Utilities

Allegheny County Steam Heating Co., Pittsburgh, Pa.
 Algoma District Power Co., Wa-Wa, Ontario, Can.
 American Telephone & Telegraph Co., Chicago, etc.
 Astoria Lt. Heat & Pr. Co., Astoria, N. Y.
 Birmingham Elect. Co.
 Boston Consolidated Gas Co.
 Brooklyn Edison Elect. Illum. Co.
 Brooklyn Union Gas Co., Greenpoint
 Byllesby Co., Chicago, Ill.
 Central Illinois Public Service Co., Springfield, etc.
 Chicago District Elec. Gen. Co., Hammond, Ind.
 Cleveland Street Car System, Cleveland, Ohio
 Commonwealth Edison Co., Chicago, Ill.
 Consolidated Gas Co., N. Y.
 Consumers Power Co., Flint, Mich., etc.
 Delaware Pwr. & Lt. Co., Wilmington, Del.
 Detroit Edison Co., Detroit, Mich.
 Duquesne Light Co., Pittsburgh
 Duke Power Co., Great Falls, S. C., Charlotte & River Bend, N. C.
 Edison Co., Cumberland, Md.
 El Paso, Fla. Electric Co.
 Georgia Power Co., Atlanta
 Indiana Service Co., Ft. Wayne and Indianapolis, Ind.
 Kentucky Util. Co., Madisonville, Ky., etc.
 LaCledde Gas Light Co., St. Louis, Mo.
 Louisiana Steam Prod. Co., Baton Rouge, La.
 Middle West Utilities
 Niagara-Hudson Power Corp., Buffalo
 Northern States Power Co., Chippewa Falls, Wis., etc.
 Oklahoma Gas & Elec. Co., Harrah, Okla. City, etc.
 Pawtucket R. I. Gas Co.
 Philadelphia Rapid Transit Co.
 Southern Power Co., Salisbury, N. C.
 Stone & Webster, Boston
 St. Paul Gas Light Co., St. Paul, Minn.
 Texas Utilities, Lubbock, Texas, etc.
 Union National Gas Co., Windsor, Ontario, Canada

(Continued on page 29)

FEDERAL-AMERICAN CEMENT TILE CO. - CHICAGO

Public Utilities—(Cont.)

United Illuminating Co., New Haven, Conn.
 Utilities Pow. & Lt. Co., Dubuque, Ia.; Rolla, Mo.
 West Penn Power Co., Pittsburgh

Railroads

Baltimore & Ohio, Indianapolis, Cincinnati, Pittsburgh, etc.
 Central R. R. of N. J., Bound Brook, N. J.
 Chesapeake & Ohio, Russell, Ky., Huntington, W. Va.
 Chicago, Burlington & Quincy, Chicago, etc.
 Chicago & East. Illinois, Chicago; Evansville, Ind., etc.
 Chicago and Great Western, Oelwein, Iowa
 Chicago, Milwaukee & St. Paul, Milwaukee, Wis.
 Chicago & North Western, Chicago, Ill.
 Chicago & Western Indiana, Chicago
 Chicago, Rock Island & Pacific, Kansas City, Kans.; Shawnee, Okla.; Chicago, Ill.; Silvis, Ill.; Armourdale, Kan.; El Reno, Okla.
 Chicago Union Station, Chicago, Ill.
 Dallas Union Station, Dallas, Texas
 Delaware & Hudson, Oneonta, N. Y.
 Delaware, Lack. & West. Buffalo, Hoboken
 Florida East Coast, Jacksonville, St. Augustine, etc.
 Fort Worth and Denver City R. R., Childress, Texas
 Grand Trunk, Detroit, Mich.; Elsdon, Ill., etc.
 Illinois Central, Chicago, Ill., and many other points
 Indianapolis Union Station, Indianapolis, Ind.
 Kansas City Union Station, Kansas City, Mo.
 Lehigh Valley R. R., Jersey City, N. J.
 Louisville & Nashville, Louisville, Ky.
 Michigan Central R. R., Detroit, Mich.
 Missouri, Kansas & Texas, Waco and Ft. Worth, Tex.
 Missouri Pacific, Sedalia, Mo.
 N. C. & St. L. Railroad, Atlanta, Ga. Union Station
 New York Central Station, Buffalo
 Norfolk & Western, Roanoke, Va.
 N. Y., N. H. & Hartford, Harrison, N. J.; Mamaroneck, N. Y.
 Pennsylvania Lines, Chicago, Pittsburgh, Philadelphia Station; Long Island City; Wilmington, Del., etc.
 Southern Ry Co., Cincinnati; Lexington, N. C.; Washington, D. C., etc.
 Terminal Station, Atlanta, Ga.
 Union Pacific, Omaha, Nebr.
 Wabash Railroad, Chicago, Ill.; Decatur, Ill.

Railroad Equipment Plants

American Car & Foundry Co., Chicago, Ill., and Madison, Ill.
 American Locomotive Co., Pittsburgh, Pa.
 American Steel Foundries, Chicago, and other places
 Baldwin Locomotive Works, Eddystone, Pa.
 Bettendorf Co., Bettendorf, Iowa
 Commonwealth Steel Co., Granite City, Ill.
 General American Car Corp., East Chicago, Ind.
 Griffin Wheel Co., Council Bluffs, Iowa
 Locomotive Finished Materials Co., Atchison, Kans.
 Mount Vernon Car Mfg. Co., Mount Vernon, Ill.
 Pullman Company, Chicago, Ill.
 Ryan Car Co., Chicago, Ill.
 Superheater Co., East Chicago, Ind.
 Western Steel Car & Foundry Co., Chicago, Ill.

Schools and Universities

(See Gymnasiums)

Alabama Polytechnic Institute
 Birmingham, Ala., Schools
 Buffalo, N. Y., Schools
 Cathedral High School, Indianapolis, Ind.
 Chicago, Ill. Schools
 Franklin School, St. Paul, Minn.
 Frazer School, Syracuse, N. Y.
 Geo. Rogers Clark School, Hammond, Ind.
 La Salle High School, Minneapolis, Minn.
 Pittsburgh, Pa., Schools
 Purdue University, Lafayette, Ind.
 Royal Oak High School, Royal Oak, Mich.
 St. John's Prep. School, Danvers, Mass.
 St. Leo's Parochial School, Corona, L. I.
 St. Louis Univ. Dental School, St. Louis, Mo.
 University of Chicago Buildings, Chicago
 University of Detroit, Detroit, Mich.
 Univ. of Indiana, Bloomington, Ind.
 University of Michigan, Ann Arbor, Mich.
 Wilberforce, Ohio, University

Steel Plants

Alabama Dry Dock & Shipbuilding Co., Mobile
 Algoma Steel Co., St. St. Marie, Ont., Can.
 American Steel & Wire Co., Donora, Pa.; Worcester, Mass.
 Bethlehem Steel Co., Buffalo, N. Y.
 Carnegie Steel Co., Duquesne, Pa., Pittsburgh
 Detroit Steel Products Co., Detroit, Mich.
 Gary Tube Co., Gary, Ind.
 General Steel Castings Corp., Eddystone, Pa.
 Globe Steel Tubes Co., Milwaukee, Wis.
 Gulf States Steel Co., Birmingham and Alabama City
 Illinois Steel Co., Gary, Ind.; So. Chicago, Ill.
 Inland Steel Co., Chicago Hts., Indiana Harbor
 Massillon Rolling Mills, Massillon, Ohio
 Minnesota Steel Co., Duluth, Minn.
 National Tube Co., Elwood City, Pa.; Loraine, Ohio
 Sloss-Sheffield Steel & Iron Co., N. Birmingham, Ala.
 Steel & Tubes, Inc., Elyria, Ohio
 Tennessee Coal Iron & R. R. Co., Birmingham
 U. S. Pipe & Fdry. Co., North Birmingham
 Youngstown Sheet & Tube Co., Youngstown, Ohio;
 Indiana Harbor, Ind.

Theatres

Carolina, Greensboro, N. C.
 Cherokee, St. Paul, Minn.
 Colonial, Milwaukee, Wis.
 Granada, Duluth, Minn.
 Keith's Georgian, Atlanta
 Lerner, Elkhart, Ind.
 Loew's Inc., Pittsburgh
 Melba, Dallas, Texas
 Metropolitan, Denver
 Michigan, St. Louis, Mo.
 Olympia, Miami, Fla.
 Orpheum, Sioux City, Ia.
 Palace, Chicago, Ill.
 Paramount, Bristol, Tenn.
 Paramount, Brooklyn, N. Y.
 Paramount, Lynchburg, Va.
 Paramount, Montgomery, Ala.
 Paramount, Newport News, Va.
 Seattle, Seattle, Wash.
 Shea's, Buffalo, N. Y.
 Shubert-Lafayette, Detroit
 Tampa Theatre, Tampa, Fla.
 Ward, New York, N. Y.
 World, Omaha, Nebr.

Water Works

Annapolis, Md.
 Bessemer, Ala.
 Chicago, Ill.
 Dallas, Texas
 Dalton, Ga.
 Des Moines, Iowa
 Detroit, Mich.
 Duluth, Minn.
 Fort Lauderdale, Fla.
 Indianapolis, Ind.
 Louisville, Ky.
 Memphis, Tenn.
 Minneapolis, Minn.
 Omaha, Nebr.
 Poughkeepsie, N. Y.
 Racine, Wis.
 Rockville, Conn.
 Saginaw, Mich.
 St. Louis, Mo.
 Toledo, Ohio

Miscellaneous

American Brass Co., Detroit, Mich.
 American Salpa Corp., E. Spotswood, N. J.
 American Tobacco Co., Reidsville, N. C.
 Bakelite Corp., Bound Brook, N. J.
 Colgate-Palmolive-Peet Corp., Jersey City
 Congoleum-Nairn Co., Kearny, N. J.
 Continental Can Co., Chicago
 Dow Chemical Co., Midland, Mich.
 Dupont-DeNemours Co., Wilmington, Del.; Richmond, Va.; Old Hickory, Tenn.
 Eagle-Picher Lead Co., Hillsboro, Ill.
 General Electric Co., Ft. Wayne, Ind.; West Lynn, Mass.; Schenectady, N. Y.
 A. P. Green Firebrick Co., Mexico, Mo.
 Goodyear Tire & Rubber Co., Gadsden, Ala.
 Jeffery Mfg. Co., Columbus, Ohio
 Kohler Co., Kohler, Wis.
 Mathieson Alkali Wks., Niagara Falls, N. Y.
 Merrimac Chemical Co., Everett, Mass.
 Michigan Alkali Co., Wyandotte, Mich.
 Montgomery Ward & Co., Chicago, Ill.; Denver, Colo.; Albany, N. Y.; Ft. Worth, Tex.
 National Carbon Co., Niagara Falls, N. Y.; Fostoria, O.
 National Plate Glass Co., Ottawa, Ill.; Blairsville, Pa.
 Otis Elevator Co., Quincy, Ill.; Harrison, N. J.
 Owens-Illinois Glass Co., Huntington, W. Va.
 Philadelphia Quartz Co., Rahway, N. J.; Baltimore, Md.; Gardenville, N. Y.; Kansas City, Kans.
 Sears, Roebuck & Co., Memphis, Minneapolis, Newark
 Seiberling Rubber Co., Barberton, Ohio
 Standard Sanitary Mfg. Co., Kokomo, Ind.
 U. S. Rubber Co., Passaic, N. J.
 War Dept. Mississippi River Comm., Memphis
 Western Electric Co., Chicago, Ill.; Kearny, N. J.
 Western Union Car Shops, Chattanooga
 West Vaco Chlorine Prod. Co., So. Charleston, W. Va.

Standard Specifications

Featherweight Concrete Insulating Channel Slabs

Standard slabs to carry an ultimate load of 250 lbs. per square foot, uniformly distributed when resting on supports spaced the same as the purlins. No warped, cracked or broken slabs will be permitted to be placed in the roof. All slabs to be as nearly perfect as good workmanship will permit.

All slabs to be natural water and air cured under cover where a constant temperature is maintained of not less than 65 degrees Fahr.

The contractor shall make up and submit for approval precast slab details based on the steel fabricator's shop drawings as well as the architect's design drawings, before starting manufacture of material.

All slabs are to be erected by the manufacturer furnishing the material in a thorough workmanlike manner.

The roof decks are to be Precast Featherweight Concrete Insulating Channel Slabs $2\frac{3}{4}$ " deep for spans up to 6'4" and $3\frac{1}{2}$ " deep or more for longer spans. The web thickness is to be a full one inch, composed of an approved brand of Portland Cement and the highest grade Haydite aggregate in a mixture of one part of cement to four parts of aggregate accurately graded and thoroughly mixed and vibrated so as to obtain the greatest possible density. Each leg is to be reinforced with one deformed bar accurately centered so as to have at least one-half inch of dense, impervious concrete on all sides. The web of the slab is to be reinforced with a sheet of *galvanized welded* wire mesh accurately centered.

All joints of the channel slabs are to be cemented on the upper side with an approved brand of asphaltic cement and the finished deck to present a smooth surface ready for the application of the composition covering.

Essential Data

Adapted to all roof decks, flat or sloping. Composition or other covering required.

Space channel or I-beam purlins 6' for standard $2\frac{3}{4}$ " channel slabs, maximum 6'4"—weight 10 lbs. per sq. ft. Space 8' for standard $3\frac{1}{2}$ " slabs—weight 12 lbs. per sq. ft.

All joints are cemented on upper side with asphaltic

cement and the finished deck presents a smooth surface for application of composition covering.

Slabs reinforced with deformed bars in legs and galvanized welded wire mesh in web.

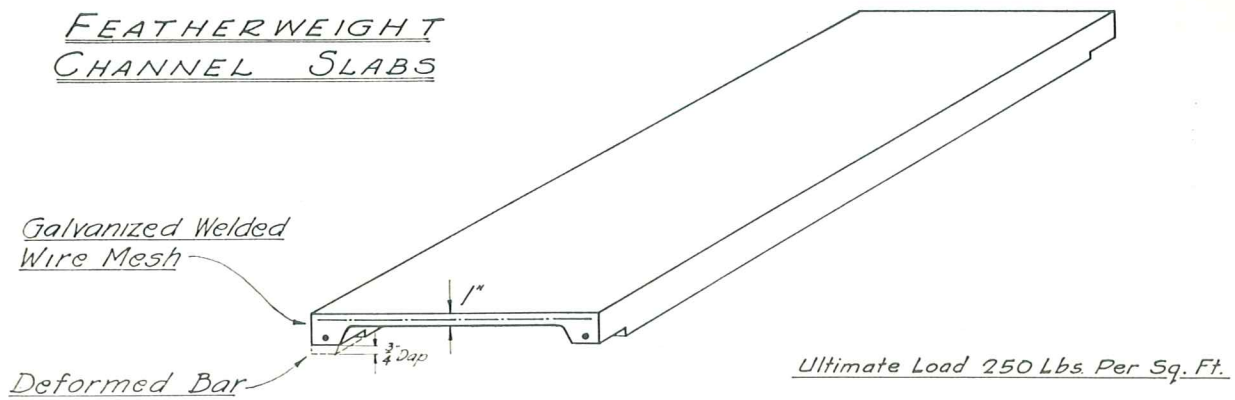
The slabs present a finished ceiling effect on the underside.



Plant of the Wolverine Tube Co. at Detroit being roofed with Federal Precast Concrete Slabs. They are laid on steel purlins, after being hoisted direct from box-cars to roof. Our own expert forces take care of the erection in any locality.

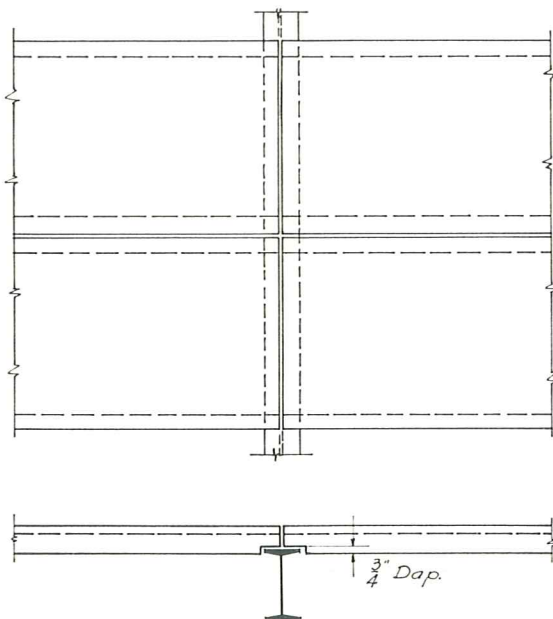
FEDERAL-AMERICAN CEMENT TILE CO. - CHICAGO

FEATHERWEIGHT CHANNEL SLABS

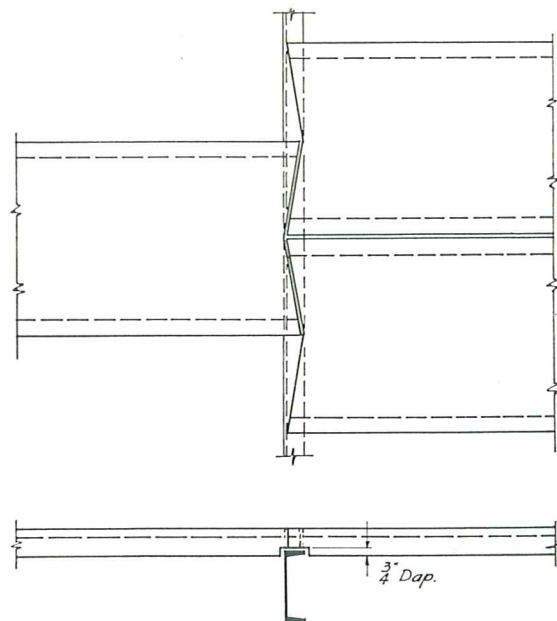


DEPTH	LENGTH	MAXIMUM LENGTH	WEIGHT PER SQ. FT.
$2\frac{3}{4}$ "	6'-0" STANDARD.	6'-4"	10 LBS.
$3\frac{1}{2}$ "	8'-0" STANDARD	8'-4"	12 LBS.

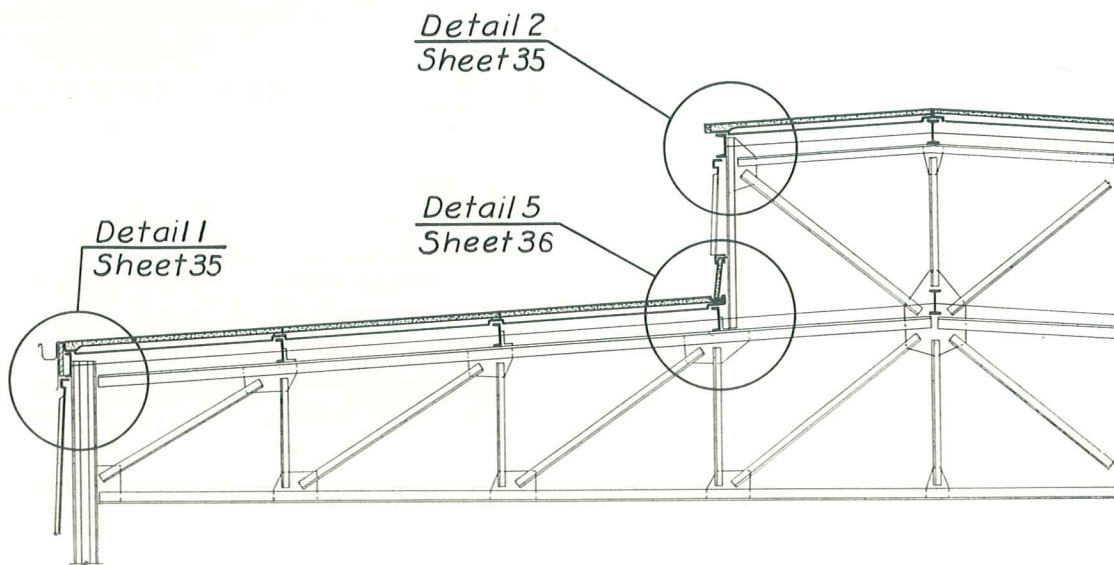
NOTE: Slabs Can be Furnished for Special Conditions
Other Than the Above.



CONSTRUCTION
ON I BEAM PURLINS

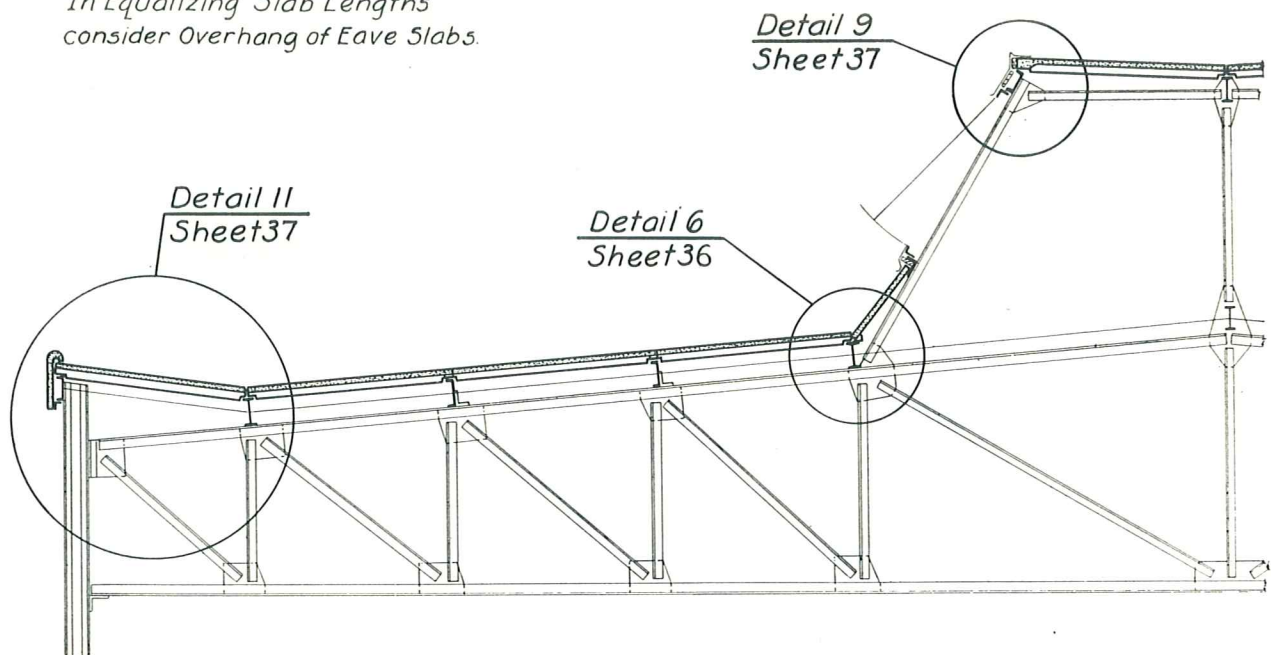


DOVETAIL CONSTRUCTION
ON CHANNEL PURLINS

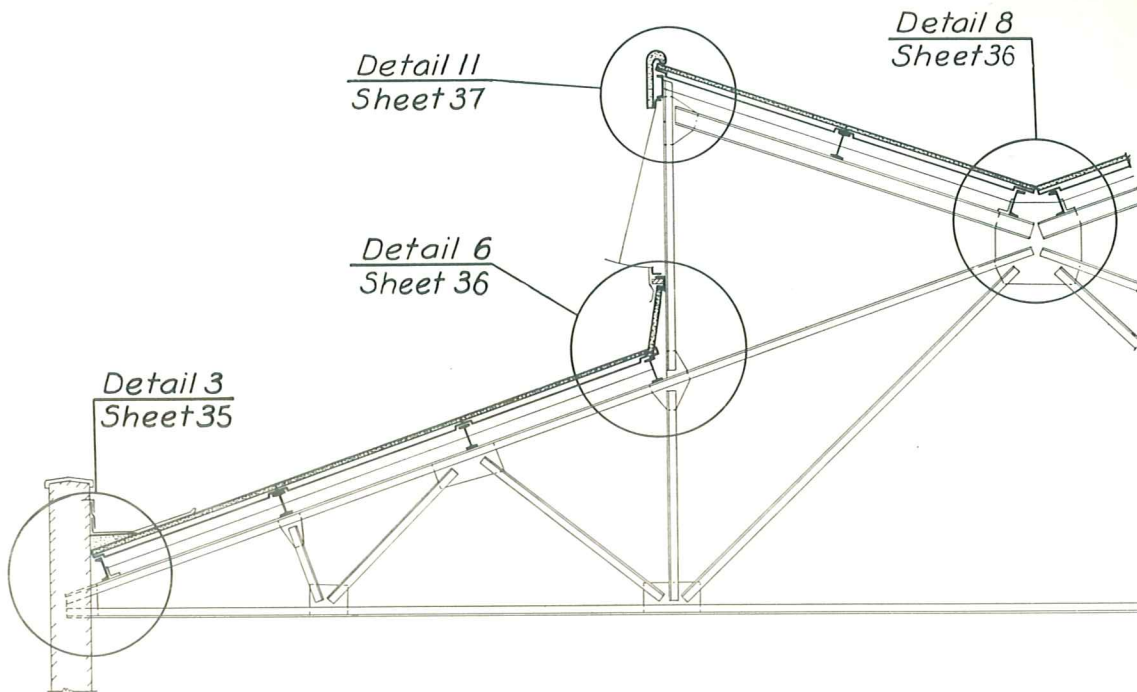


MONITOR TYPE ROOF

*In Equalizing Slab Lengths
consider Overhang of Eave Slabs.*

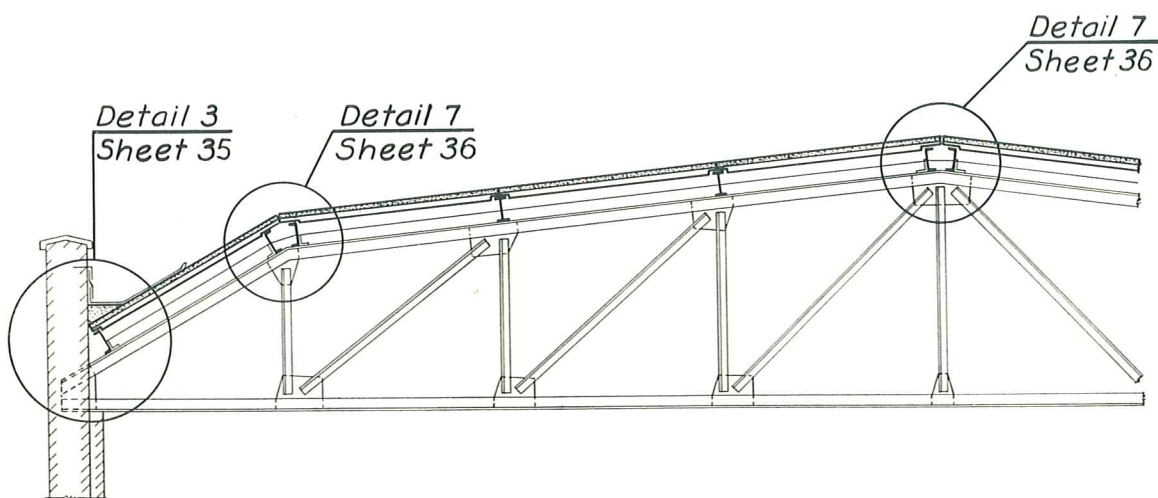


"A" FRAME MONITOR

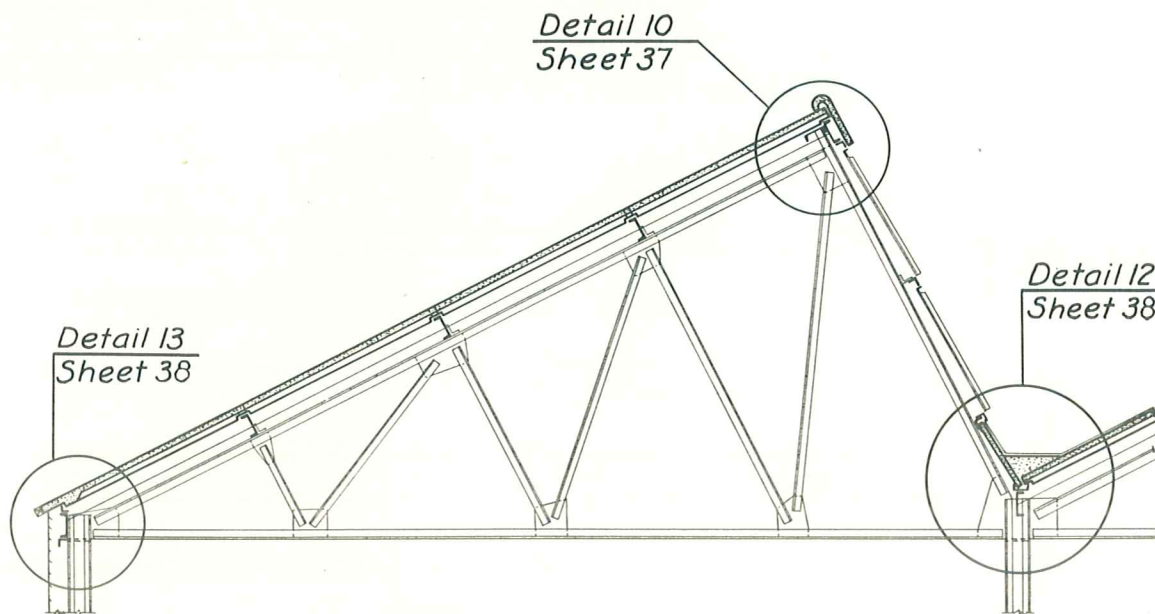


INVERTED MONITOR

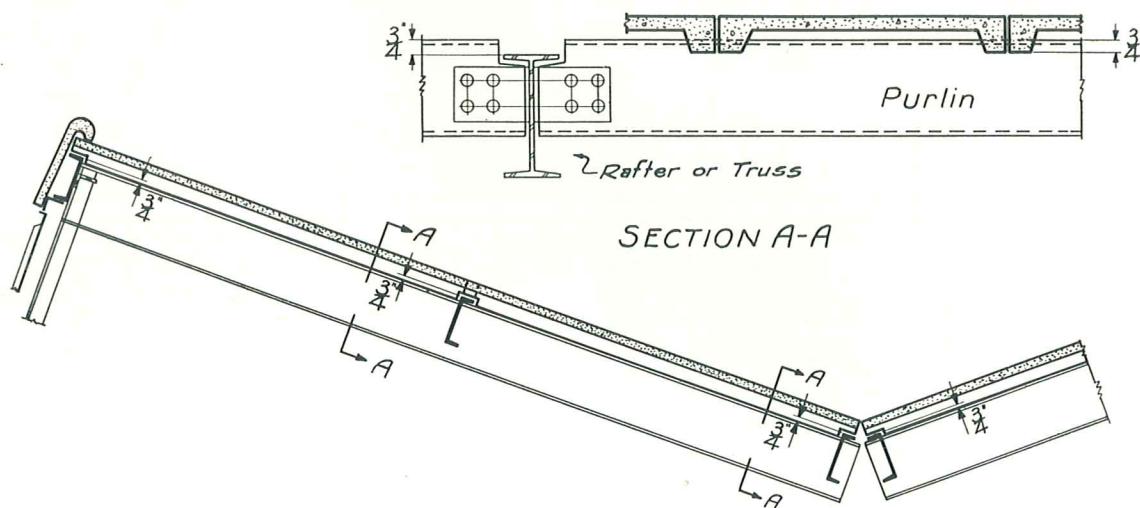
*In Equalizing Slab Lengths
consider Overhang of Eave Slabs.*



HIP ROOF

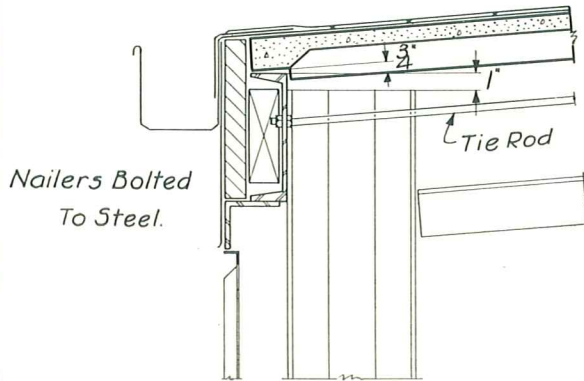


SAWTOOTH ROOF

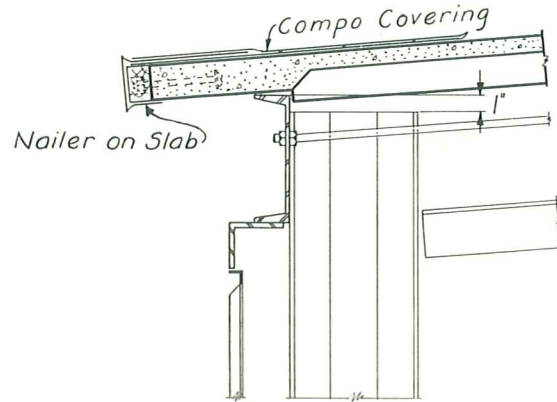


*Note:- When Purlins Frame to Truss or Rafter,
Frame $\frac{3}{4}$ " Above, so Rafter will Support Ribs
of Slabs where Purlins are coped out.*

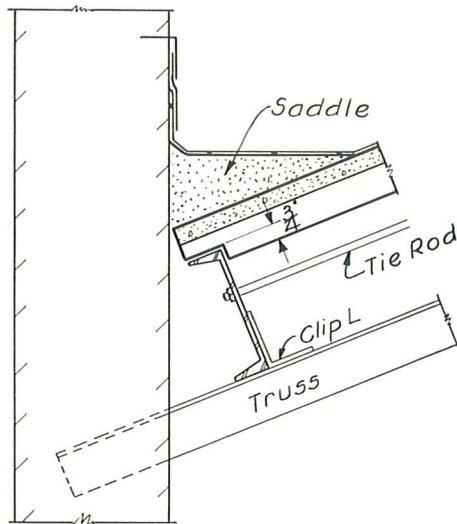
Note Stop Cols 1' Below Top of Purlins
Slabs Notched $\frac{3}{4}$ " for Locking



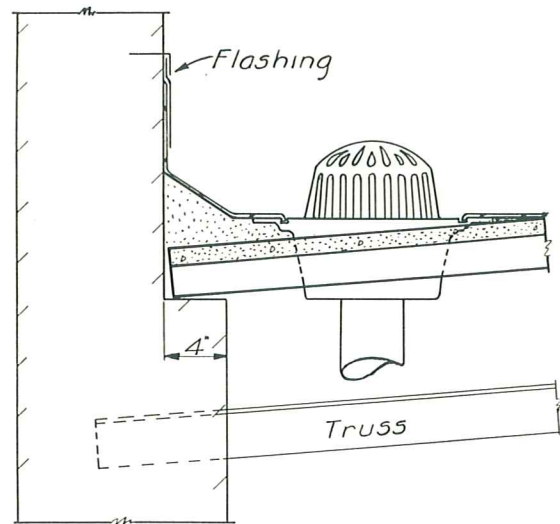
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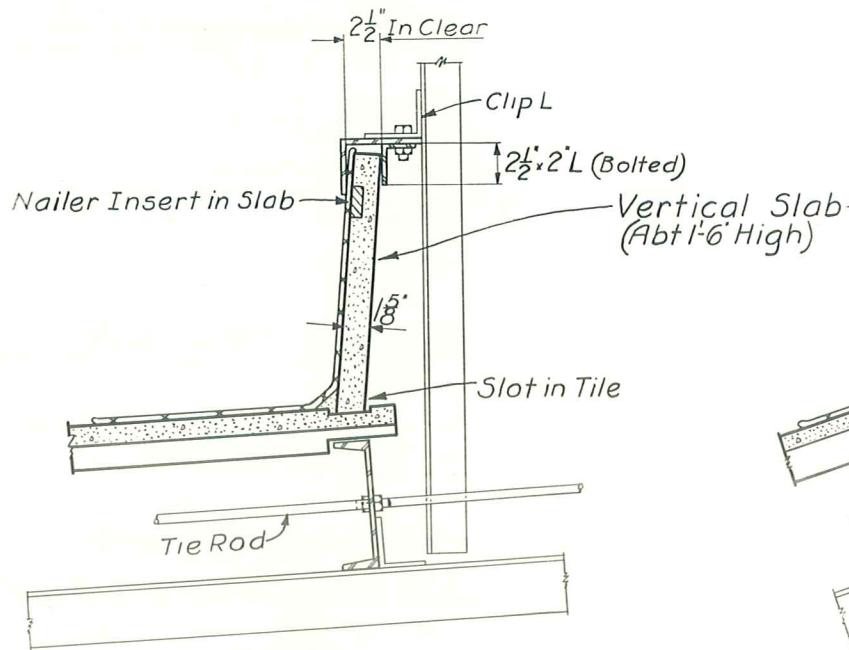
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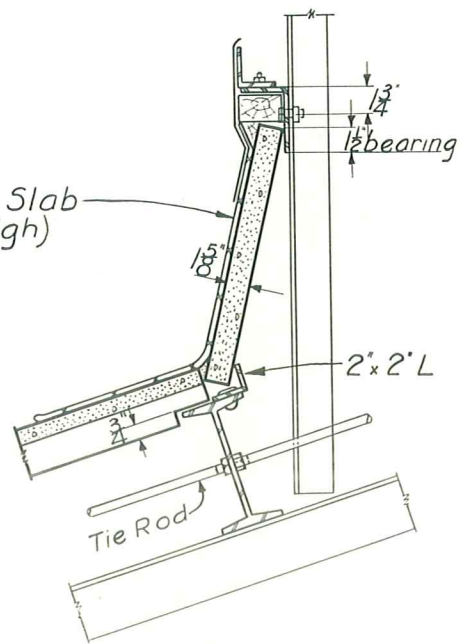
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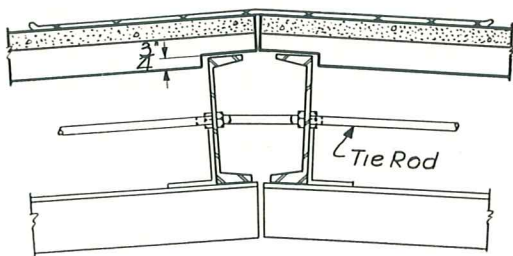
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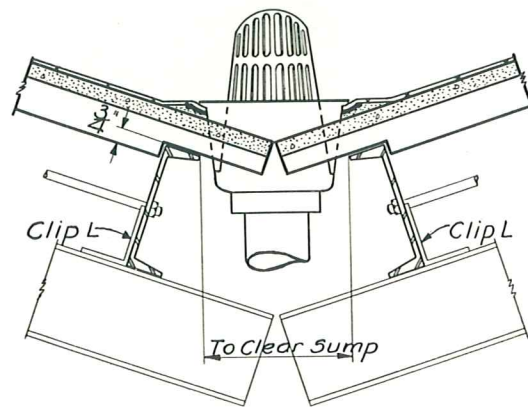
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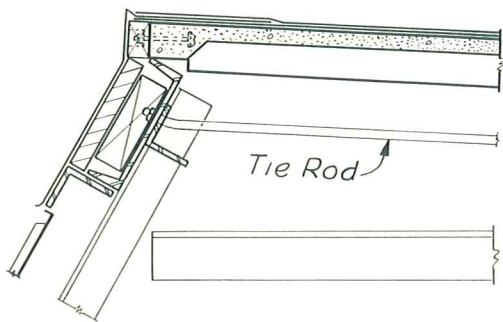
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7

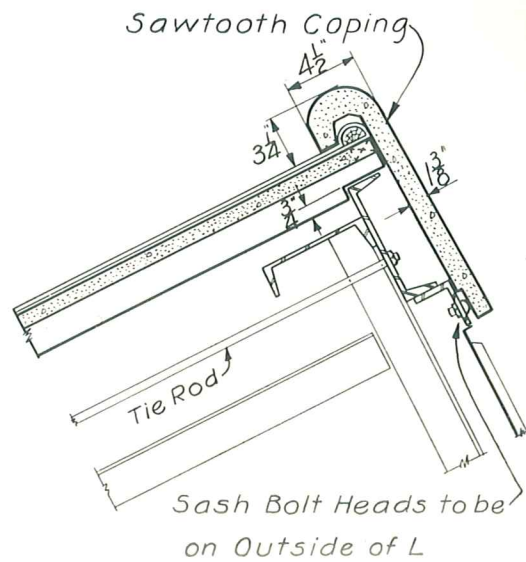


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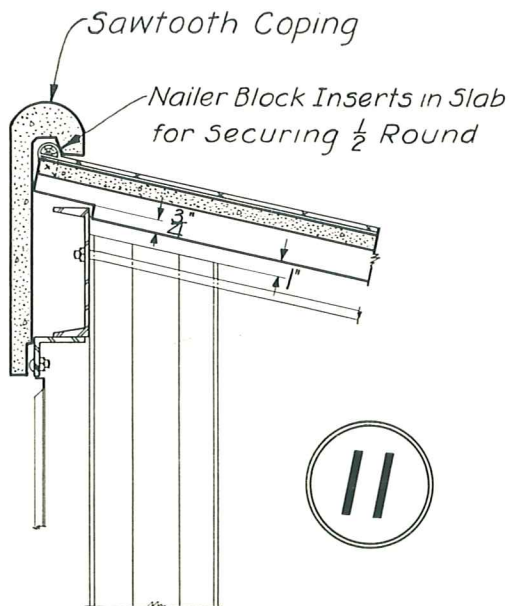


9

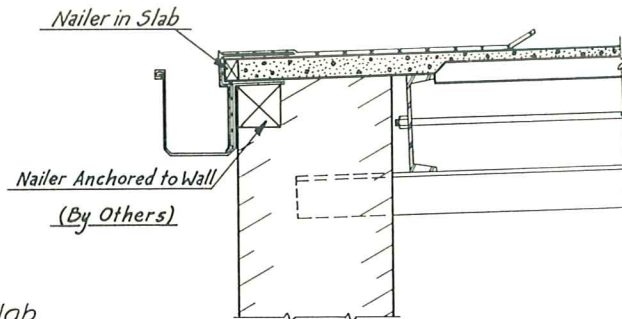
Brace Top Purlin
against Pull down
of Roof



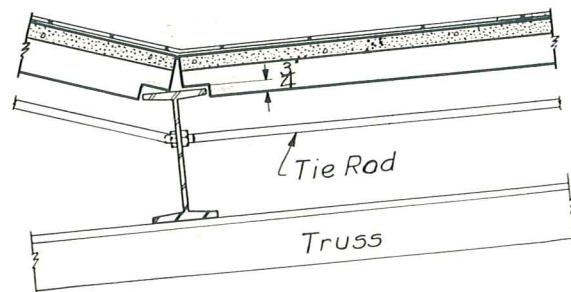
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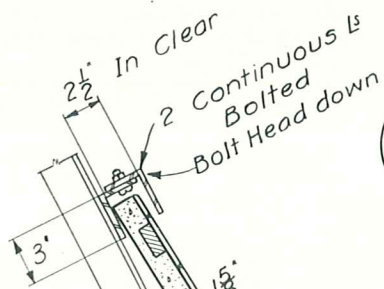


11



EAVE DETAIL

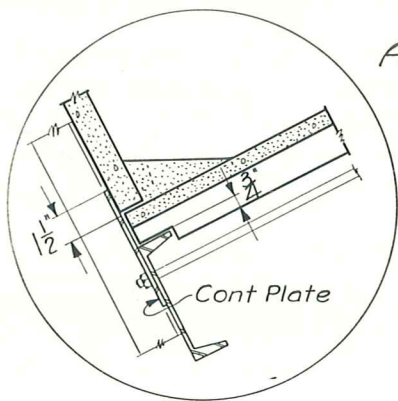




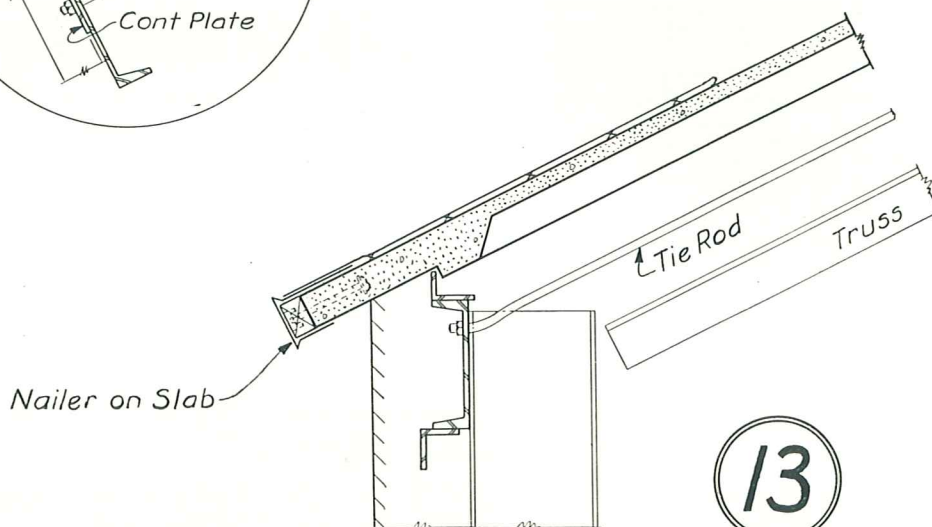
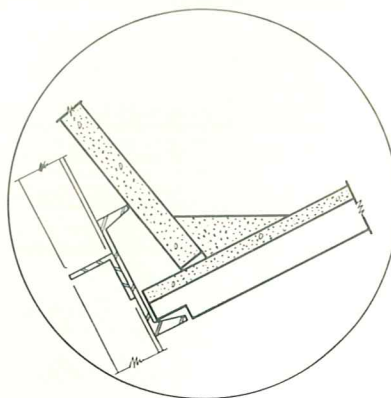
12

Box Sump Slab
For Sloped Roof

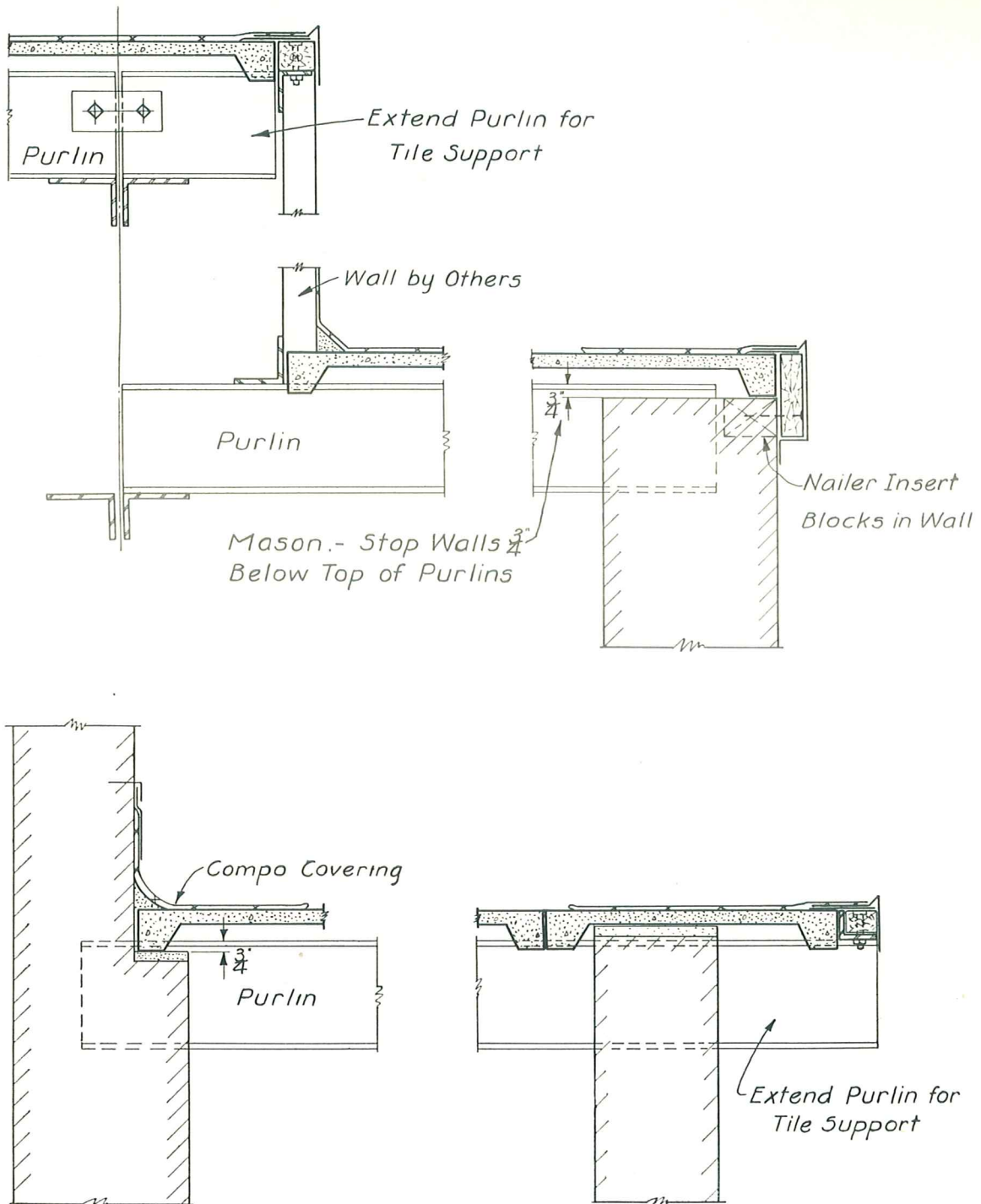
Tie Rod



ALTERNATE
DETAILS

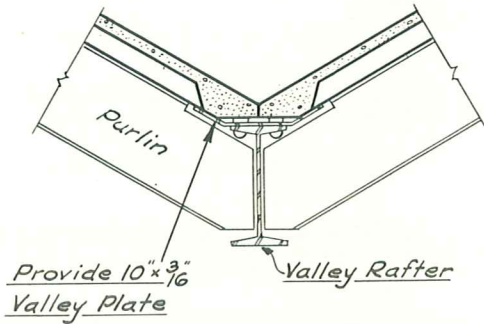


13



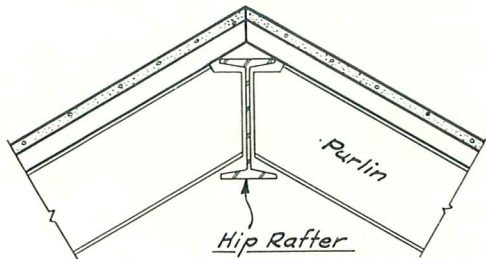
GABLE END DETAILS

Flatten Rivet Heads
to $\frac{1}{4}$ " Top Side



TYPICAL VALLEY SECTION

If channel hip rafter is used,
angle should be provided \angle °.

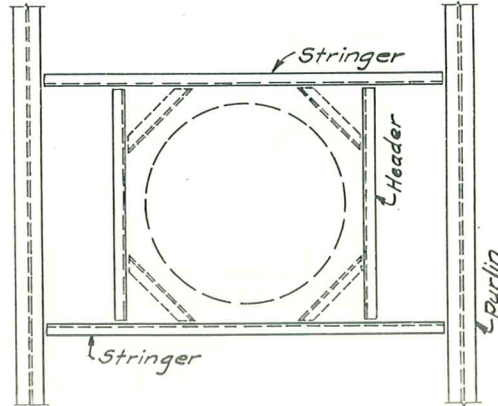


Top Line of Purlins to Intersect Outer
Edge of Hip Rafter to Support Roof Slabs

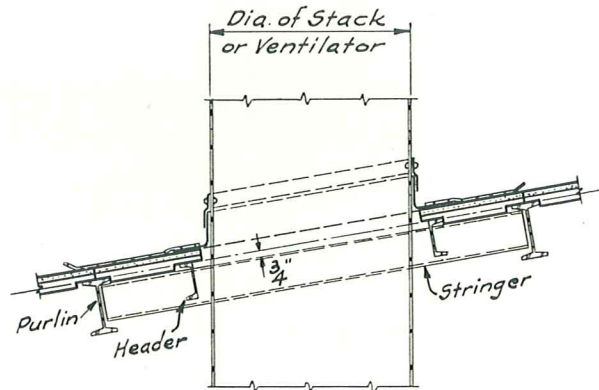
TYPICAL HIP SECTION

No Framing Needed For
Openings 24" Dia. or Less

Diagonal Members Needed For
Openings Over 42" Dia.



All Framing Flush Top With Purlins
Except Stringer Members to be $\frac{3}{4}$ " Below



TYPICAL FRAMING AROUND
STACK OR VENTILATOR OPENINGS

Featherweight
NAILING CONCRETE
Insulating Roof Slabs



Shedd Aquarium, Grant Park, Chicago.
Roof of Federal Nailing Concrete and
other Federal Slabs.

FEDERAL-AMERICAN CEMENT TILE CO. • CHICAGO

Nailing Slate, Ornamental Tile, Copper or Other Covering Directly to Concrete!

THE merits of precast concrete have been so firmly established during the past quarter century that today there is no question of its position as the leading roof-deck material. The addition of an integral *Nailing Concrete* surface to these slabs has been accepted by architects, engineers and builders as an equally important advance in construction practice.

With the ability to take and firmly hold nails, the concrete deck may be covered directly with slate, ornamental tile, copper or other covering. There are no wood nailing strips to rot out. The covering cannot work

loose; the original beauty of the roof is always preserved. This construction is permanent, fireproof and free from all maintenance expense—painting, repairing or replacement.

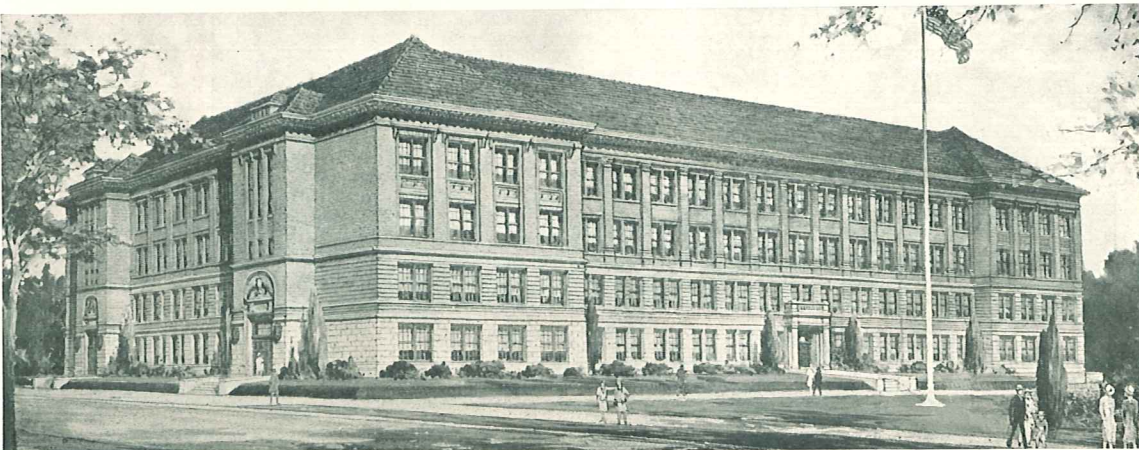
The slabs are of standard Federal design, with bottom section of reinforced concrete and top section of nailing concrete cast integrally with the bottom. This nailing material is of our own special formula developed by years of research and proven worthy in service. The concrete is of Haydite aggregate (trapped air cells) giving both light weight and an insulating value new to concrete. Being factory-made and laid directly on the steel roof purlins, *Nailing Slabs* are speedily erected in any weather and are ready at once for the roofing felt and ornamental covering. Note the partial list of users on page 44.

All types of Federal roof slabs may be furnished with a layer of cork on the underside or inserted in the body of the slab, for acoustical purposes and super-insulation where required. The concrete is cast integrally with the cork, forming a complete factory-made unit. (See page 7.)

Our engineers are glad to provide suggestions for the most economical layout of both structural steel and slabs, along with sketches and estimates. There is no obligation.



First National Bank, Lake Forest, Ill. Ornamental tile roof nailed to Featherweight Nailing Concrete Slabs.



Parker Junior High School, Chicago, an excellent example of city school design. The ornamental roof is securely nailed to Featherweight Nailing Concrete Slabs, over 50,000 sq. ft. of which are used on this building.

FEDERAL-AMERICAN CEMENT TILE CO. • CHICAGO



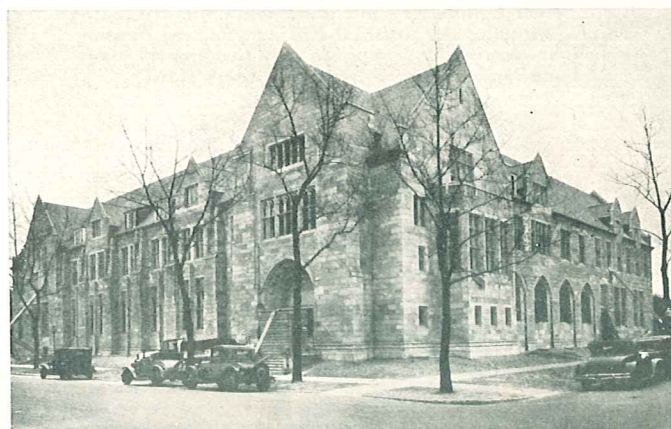
DeVilbiss High School, Toledo, Ohio, comprising over 120,000 sq. ft. of Featherweight slabs, two-thirds of which are Nailing Concrete.



Medical and Dental College of the University of Illinois at Chicago. Featherweight Nailing Concrete Slabs ready for the ornamental covering.



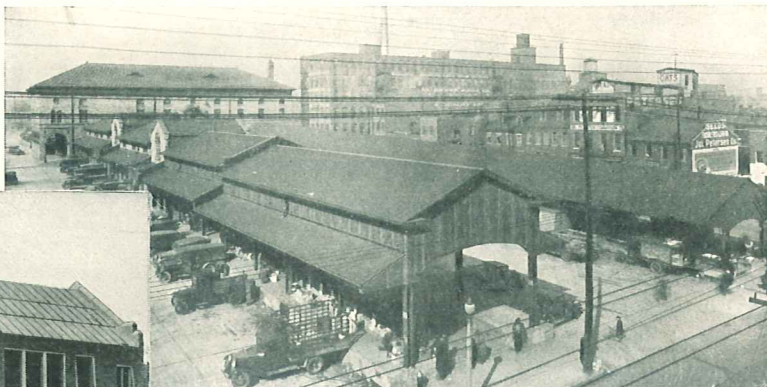
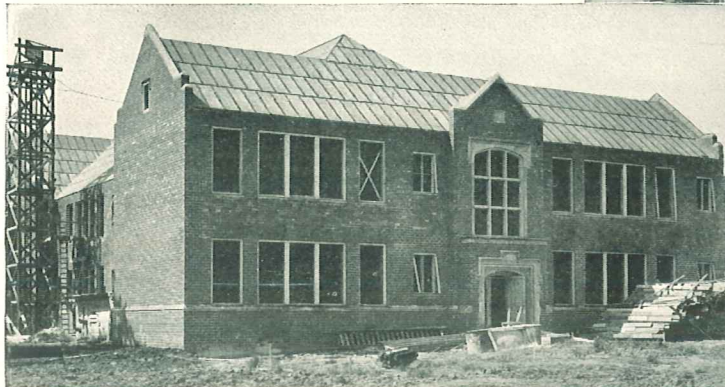
Mundelein College, Chicago, with tower roof of Featherweight Nailing Concrete Slabs to which a metal covering has been nailed.



University of Chicago, new Oriental Building, typical of several beautiful buildings on this campus with roof-deck of Featherweight Nailing Concrete Slabs under the ornamental tile.

FEDERAL-AMERICAN CEMENT TILE CO. - CHICAGO

Harrison School, Cedar Rapids, Ia., showing the roof-deck of Featherweight Nailing Concrete Slabs ready for the roofing felt and ornamental tile.



Souldard Market, St. Louis, with Administration Building, covered with Featherweight Nailing Concrete Slabs.

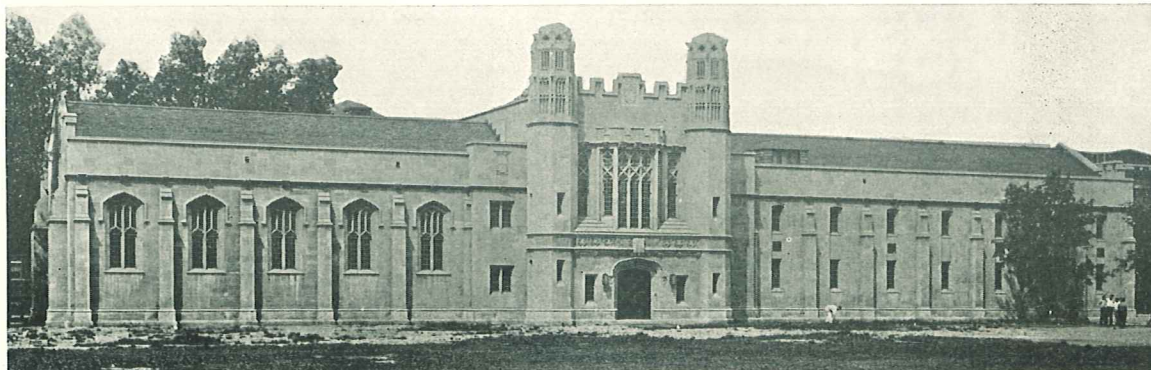
Some of the Many Modern Buildings on which Federal Nailing Slabs are Used



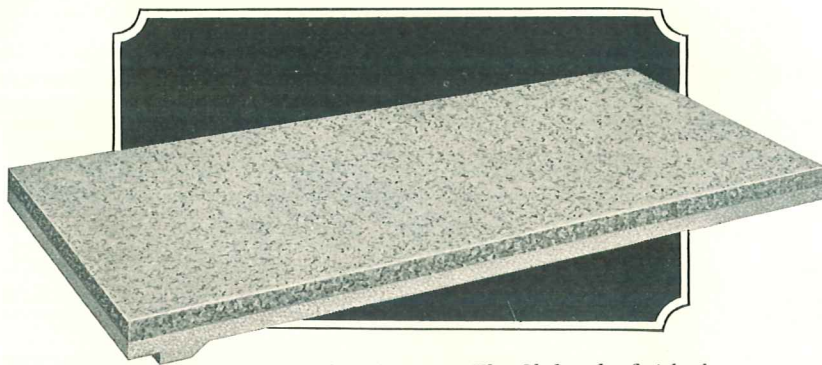
Cranbrook School Gymnasium, Bloomfield Hills, Mich., showing the finished ceiling effect of Featherweight Nailing Concrete Slabs. Ornamental roof is nailed directly to the top of these slabs.

- | | |
|--|---|
| University of Chicago buildings—Chapel, Oriental Building, etc. | Roger Sullivan High School, Chicago. |
| DeVilbiss High School, Toledo. | Grosse Point, Mich., Pumping Station. |
| Terminal Bldg. of Birmingham, Ala., Municipal Airport. | Mundelein College, Chicago. |
| St. Aloysius Church, Detroit. | National Kindergarten College, Wilmette, Ill. |
| Jackson County, Michigan, Sanitarium. | Meadville Theological Seminary, Chicago. |
| Minneapolis Water Works, Fridley Filtration Plant. | Baltimore & Ohio R. R. Water Plant, Heath, Ohio. |
| Shedd Aquarium, Chicago. | Glenwood Manual Training School, Chicago. |
| Marshall, Michigan, High School. | Haish Memorial Library, DeKalb, Ill. |
| Souldard Market, St. Louis. | Lincoln National Bank, Fort Wayne, Chicago. |
| Illinois State Women's Reformatory, Dwight—8 Cottages. | University of Illinois, Medical & Dental College, Chicago, Ill. |
| Illinois State Women's Reformatory, Dwight—Administration and other buildings. | Consolidated Water Power & Paper Co., Wisconsin Rapids, Wis. |
| Parker Junior High School, Chicago. | Ebenezer Community Bldg., Chicago. |
| Cranbrook School, Bloomfield Hills, Mich. | Donmeyer School, South Bend, Indiana. |
| Lake Forest, Ill., Library. | Algoma Steel Co., Sault Ste. Marie, Canada. |
| Harrison School, Cedar Rapids, Ia. | First National Bank, Lake Forest, Ill. |
| Lane Technical High School, Chicago. | St. Pascals Catholic Church, Chicago, Ill. |
| Northwest School, Joliet, Ill. | |
| Foch School, Detroit. | |
| Presbyterian Theological Seminary, Chicago. | |
| Sheboygan, Wis., Water Works. | |

Presbyterian Theological Seminary Gymnasium, Chicago, with ornamental roof nailed directly to Featherweight Nailing Concrete Slabs



FEDERAL-AMERICAN CEMENT TILE CO. • CHICAGO



Featherweight Nailing Concrete Flat Slab—the finished product ready to be laid directly on the steel purlins.

Essential Data on Featherweight Nailing Concrete Slabs

Adapted to all roof structures of any slope.

The slabs present a smooth surface for application of ornamental tile, slate or metal. For standard *Nailing Slabs*, space I-Beam purlins 5' apart. (For longer lengths space purlins 5' to 5' 4" maximum.)

Nailing Slabs are 2' wide, with a layer of 1 1/4" of nailing concrete cast integral on top and weigh 18 lbs. per sq. ft. They are reinforced with galvanized wire mesh.

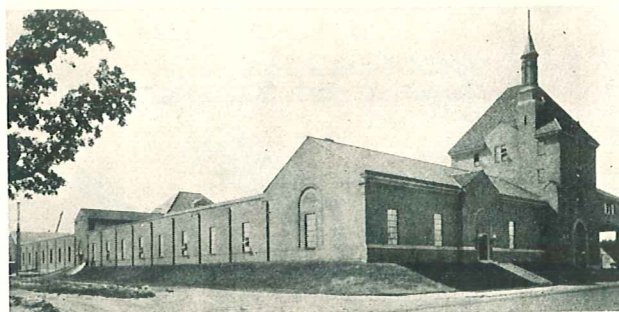
SPECIFICATIONS Nailing Concrete Slabs

Standard slabs to carry 250 lbs. per sq. ft. ultimate load uniformly distributed when resting on supports spaced the same as the purlins. All slabs to be as nearly perfect as good workmanship will permit and no cracked, broken or warped slabs are to be placed in the roof. This contractor shall submit details of pre-cast slabs for approval before proceeding with manufacture. All slabs are to be erected by or under the supervision of the manufacturer.

Where specified, the roof-decks are to be precast Featherweight *Nailing Concrete* flat slabs designed for the spans shown, with a top section of 1 1/4" of *Nailing Concrete* cast integral with the Featherweight *Concrete* bottom section.



Nailing slate directly to the roof-deck of Federal Nailing Concrete Slabs on Ebenezer Community Building, Chicago.



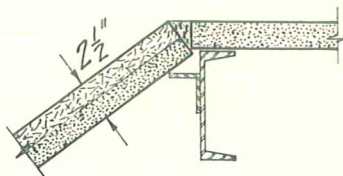
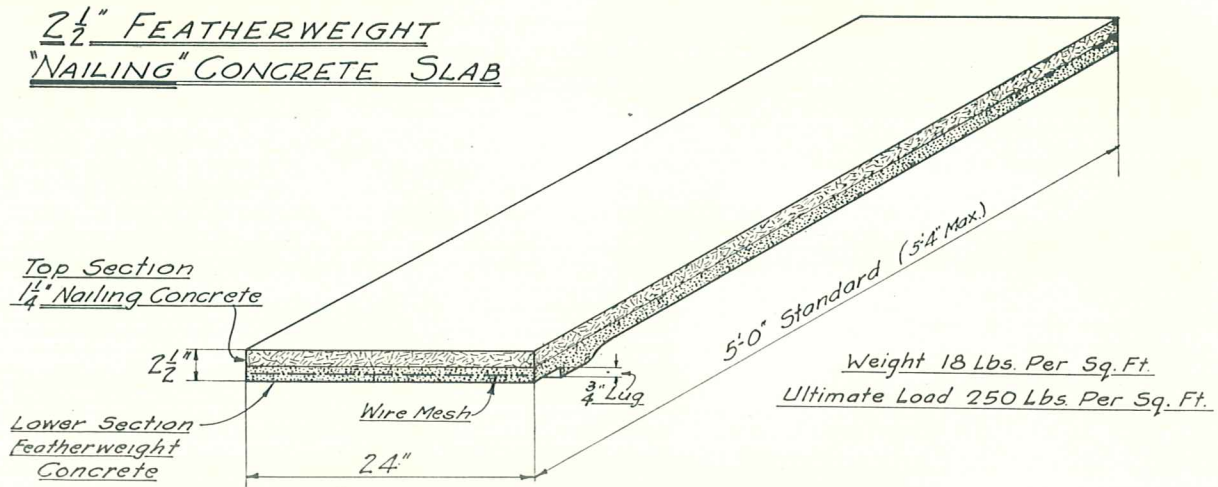
Fridley Filtration Plant, Minneapolis Water Works, with roof-deck of Featherweight Nailing Concrete Slabs under the ornamental tile.



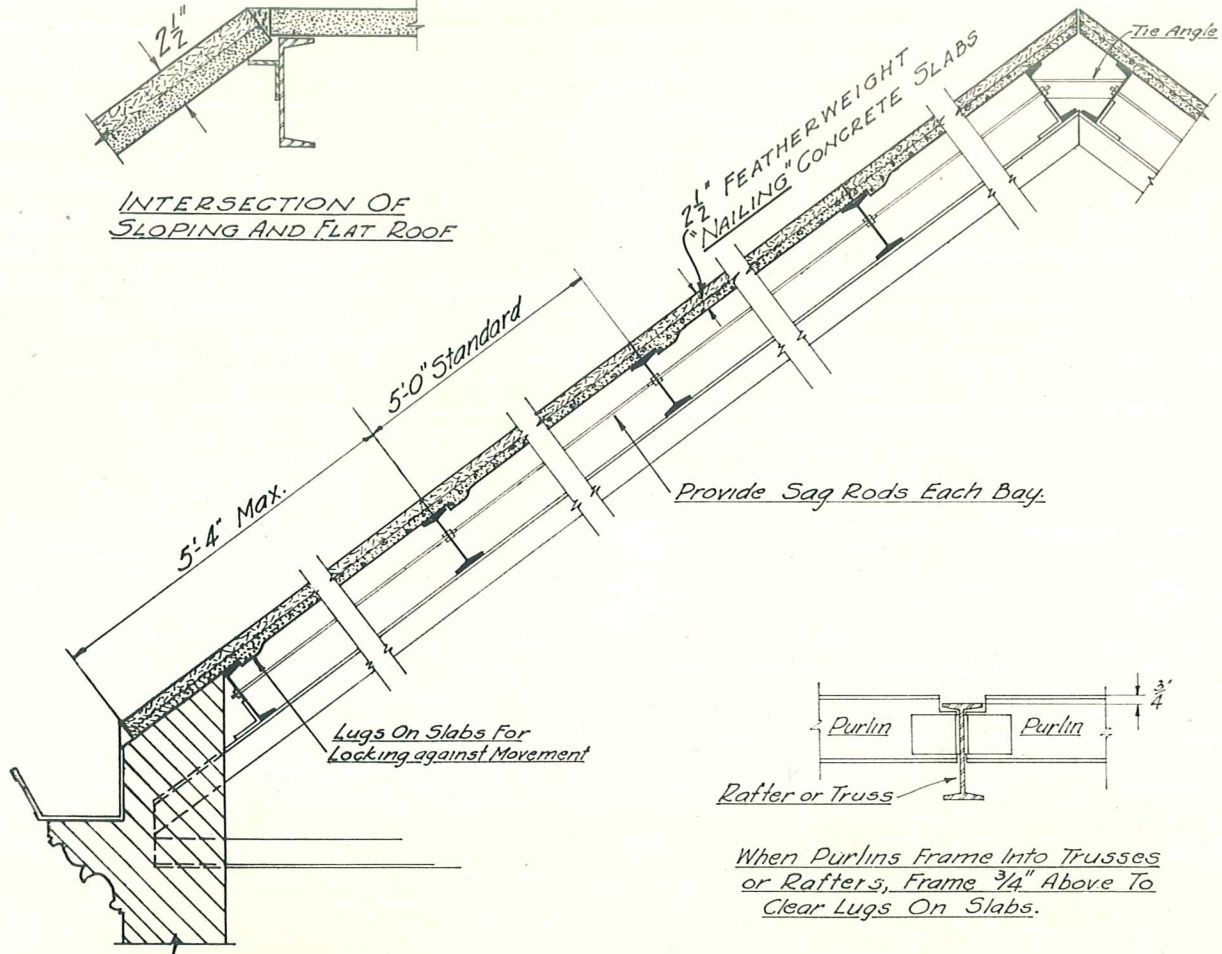
Reed Memorial Library, Lake Forest, Ill., covered with Featherweight Nailing Concrete Slabs—permanent and fire-safe.

FEDERAL-AMERICAN CEMENT TILE CO. • CHICAGO

2½" FEATHERWEIGHT "NAILING" CONCRETE SLAB



INTERSECTION OF
SLOPING AND FLAT ROOF



$2\frac{1}{2}'' \times 2\frac{1}{2}'' \times 4'' L$
Flatten rivets to
 $\frac{1}{4}''$ on top side

Brace rafters against lateral
movement with tie rods or making
intermediate clip angles continuous.

Clip Angles every 4 or 5 slabs,
space in multiples of 2'-0"

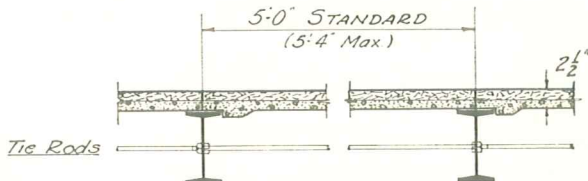
$2\frac{1}{2}'' \times 2\frac{1}{2}'' \times 4'' L$
I Beam Rafter

$2\frac{1}{2}''$ FEATHERWEIGHT
"NAILING" CONCRETE SLABS

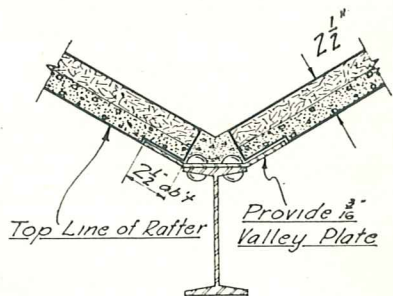
Ridge Beam

$2\frac{1}{2}'' \times 2\frac{1}{2}'' \times 4'' L$
Continuous

OUT TO OUT OF WALLS

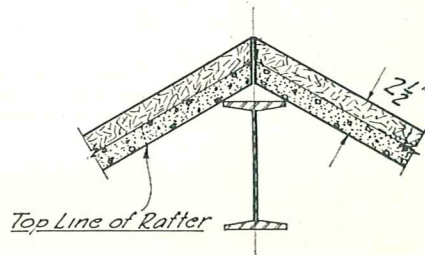


LONGITUDINAL SECTION

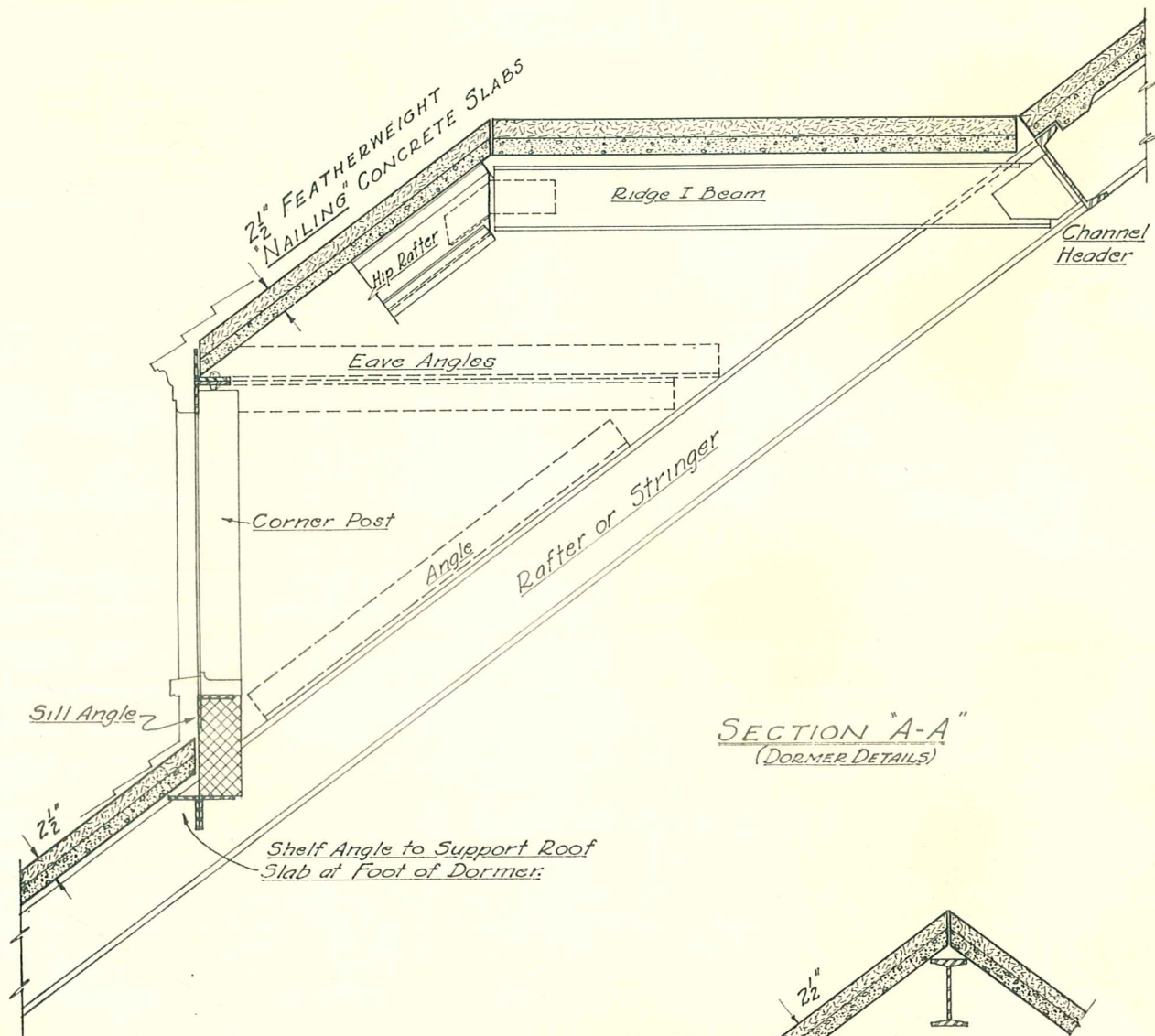


TYPICAL VALLEY SECTION

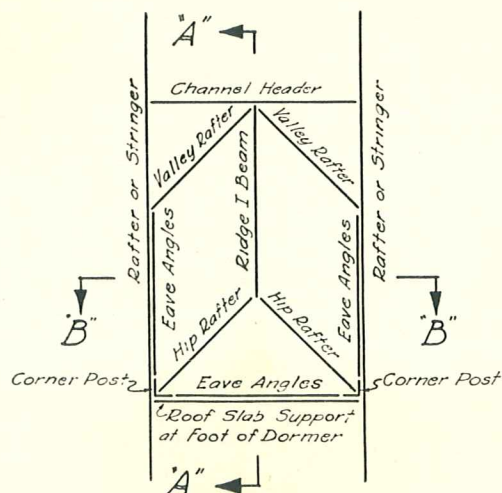
$2\frac{1}{2}'' \times 2\frac{1}{2}'' \times 4'' L$
Continuous



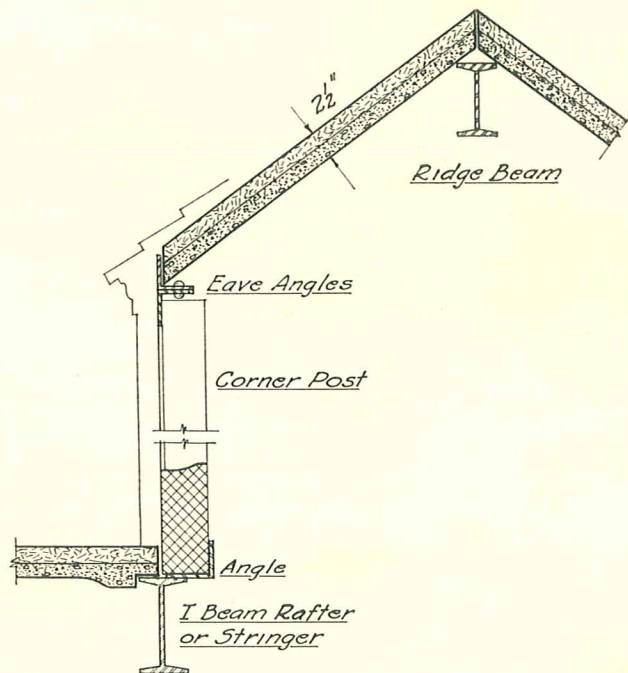
TYPICAL HIP SECTION



SECTION "A-A"
(DORMER DETAILS)



Sections thru' Hip and Valley same as Typical
DORMER STEEL FRAMING PLAN



SECTION "B-B"
(DORMER DETAILS)

